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THE AFROASIATIC LANGUAGES

Edited by

ZYGMUNT FRAJZYNGIER

ERIN SHAY



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ABBREVIATIONS

The list below contains abbreviations used in various chapters of the volume. In some cases, the same symbol may refer to different categories, or the same category may be indicated by more than one symbol, in different chapters. Also, abbreviations may use either upper- or lower-case letters, depending on which chapter they appear in.

˩	low tone	ADJ	adjective
˥	high tone	ADJP	adjectival phrase
Ø	zero marked (unmarked)	ADVST	adversative
#	word boundary (in chapter 3)	AFF	affected (Chadic)
=	clitic boundary	AFF	affirmative (Omoti)
\$	syllable boundary (in chapter 3)	Akk	Akkadian
1	first person	ALL	allative
2	second person	ANAPH	anaphora
3	third person	ANN	annex
3MSG	third-person masculine singular	ANNEX	annexed state
3FSG	third-person feminine singular	AOR	aorist
A	Akhnimic (Coptic dialect)	APPL	applicative
A	aorist	Ar.	Arabic
A	class a of verbs (Ts'amakko, Dhaasanac)	ASSC	associative
ABL	ablative	ASSOC	associative
ABS	'absolute' = unmarked case	AT	'at'
ACC	accusative	ATR	Advanced Tongue Root
AD	preverbal particle <i>ad</i>	ATT	attributive
	'NON-REALIZED'	AUX	auxiliary
		AWAY	motion away (verbal extension)
		B	Bohairic (Coptic dialect)
		B	class b of verbs (Ts'amakko, Dhaasanac)
		BCKG	background

BGND	background	DIR	directional
C	consonant	DIST	distal deixis
C ₁	first consonant	DO	direct object
CAUS	causative	DP	determiner phrase
C _F	final consonant	DS	different subject
CN	connector	DST	distal (demonstrative)
CNTQW	content question word	dtrm	determinate
CNV	converb	DU	dual
COLL	collective	DUR	durational
COM	comitative	EI	habitual past (Dahalo)
COM	comment clause marker	EA	annexed state (<i>état d'annexion</i>)
com	common		
COMP	complementizer	EE	end-of-event marker
COMPL	complementizer	EL	free state (<i>état libre</i>)
COMPL	completive	EMPH	emphasis
COMT	comitative	EP	epenthetic
CON	construct case	ES	Ethiopian Semitic
CON	converb	EXCL	exclusive
CONJ	conjunction	EXPEC	expectational
CONS	consecutive	EXT	existential
CONST	construct-state	EXT	extension
COORD	coordinative	F	Faiyumic (Coptic dialect)
COP	copula		
D	demonstrative	F	feminine
D	dependent	FEM	feminine
D.PROG	dependent progressive	fgenc	foregrounding-enclitic
D.PVG	distal point of view of goal (Chadic)	FIN	final
		FM	focus marker
DAT	dative	FOC	focus
DEC	declarative	FOR	'for'
DECL	declarative	FREQ	frequentative
DED	deduced referent	FROM	'from'
DEF	definite	FUT	future
DEF.ART	definite article	GEN	genitive
DEM	demonstrative	GER	gerund
DEM1	first degree of distance (proximal) demonstrative	GO	goal
		gr	grade (Hausa)
DEP	dependent	H	high tone
DEST	destination	H	Huehnergard (1997) (in chapter 4)
DEST	destinative extension		
DET	determiner	HAB	habitual
DF	definite	Hebr.	Hebrew

HEC	Highland East Cushitic	IRR	irrealis
HON	honorific	ITER	iterative extension
HUM	unspecified human subject	JUSS	jussive
		L	low tone
HYP	hypothetical	L	Lycopocitan (Coptic dialect)
I	imperfective		
ICAUS	indirect causative	Late Eg.	Late Egyptian
ICP	Intransitive Copy Pronoun	LOC	locative
		LOG	logophoric pronoun
IDEO	ideophone	M	masculine
IMP	imperative	MAN	Mood-Aspect-Negation
IMPER	imperative	MASC	masculine
imperf	imperfect	MED	medial (function similar to that of 'converb')
IMPERS	impersonal		
IMPF	Imperfective	MED	middle voice
IMPFV	imperfective	MID	middle
IMPS	impersonal	MOD	modifier
IMPT	imperative	MR	multiple reference
IMPTV	imperative	MSA	Modern South Arabian
IN	'in'	N	neuter = plural
IN	negative imperfective	N	nominal form
INC	inceptive	NEG	negative
INCEPT	inceptive	negenc	negative-enclitic
INCL	inclusive	NFS	non-factual stem
INCLU	inclusive	NMZ	nominalizer
IND	indicative	NOM	nominalizing marker
INDEF	indefinite	NOM	nominative
INDEF.ART	indefinite article	NONDEF	non-definite pronoun
INDEP	independent	NORM	normative
INF	infinitive	NP	noun phrase
INN	inner space (verbal extension)	NUM	number
		O	object
INST	instrumental	OBJ	object
INT	intensive	obl	oblique
INTENS	intensifier	old Eg.	Old Egyptian
INTER	interrogative	OPT	optative
INTERJ	interjection	OSA	Old South Arabian
INTJ	interjection	OUT	movement out extension
INV	inverse		
IO	indirect object	P	Perfective (Berber)
IPF	imperfective	P	person
IPS	impersonal	P, (P)	plural (of gender)

P	predicate	PST	past
P2	secondary perfective (Berber)	PTC	participle
PART	participle	PURP	purpose
PART	partitive	PVG	point of view of goal
PAS	passive	Q	question
PASS	passive	QUANT	quantifier
PAST	past	QUES	question
PCPL	participle	R	remote deixis
PER	perfect	R	verbal root
PERF	perfect	RDP	reduplication
PF	perfective	REAS	reason
PL	plural	REC.PAST	recent past
PLUR	plural	RECIP	reciprocal
PN	Negative Perfective (Berber)	REF	referential
PN	personal name	REFL	reflexive
PNCT	punctual	REL	relative
PNG	person/number/gender	REM	remote deixis
PO	potential	S	Sahidic
POL	polite	S	singular
POS	point of view of the subject	S	subject
POS	possessive	S3	third-person subject
POSS	possessive	SBJ	subject
PRE.PRO	prepronominal marker	SBJN	subjunctive
PRED	(locative) predicator (Chadic)	SCL	subject clitic
PRED	predicative	Sem.	Semitic
PRED	predicative particle <i>d</i> (Berber)	SENT	sentence marker (Ts'amakko)
PREP	preposition	SEQ	sequential
PRES	present	SEQUEN	sequential
PRET	preterite	SET	setting
PRF	perfective	SFX	suffix
PRO	(independent)-pronoun	SG	singular
PROG	progressive	SGLTV	singulative
PROH	prohibitive	SH	short (Omoti)
PRON	pronoun	SING	singular
PROSP	prospective	SO	source/subject orientation
PROX	proximal	SPEC	specified
		SS	same subject
		STAT	stative
		STR	strong
		SUBJ	subject

SUBJ	subjunctive (Chadic)	UH	unspecified human subject
T	target	UNM	unmarked tense (Ts'amakko)
T	tense	UP	movement upward extension
TAM	tense, aspect, or mood marker	V	verb
TEMP	temporal	V	vowel
TENT	tentative extension	V ₁	first vowel
TO	'to'	VEN	ventive
TOG	'together'	VN	verbal noun
TOP	topic	VOC	vocative
TOT	totality extension		
TQ	question about truth		

Ancient Egyptian and Coptic

Antonio Loprieno and Matthias Müller

3.1 Historical and cultural context

3.1.1 Introduction

Ancient Egyptian and its latest historical stage, Coptic, represent a separate branch of the Afroasiatic language family (also called Hamito-Semitic, or Semito-Hamitic; Diakonoff 1965; Hodge 1971; Zaborski 1992: 36–7). Within Afroasiatic, Egyptian shows the closest relations to Semitic and Berber.

The productive history of Egyptian, which spans from 3000 BC to AD 1300, divides into two main stages, characterized by a major change from synthetic to analytic patterns in the nominal syntax and the verbal system (Junge 1985), and further into three different phases, which affect mainly the sphere of graphemics (Kammerzell 1995).

The use of Egyptian was confined to the Nile valley and delta, broadly within the borders of modern Egypt. At certain times, the Egyptian dominion exceeded these natural borders, and Egyptian was used as the language of the Egyptian-based ruling elite in the occupied territories such as Nubia or the southern Levant. However, the language never established itself there as a stable communication system, although it seems to have left language contact traces in some of the areas (Muchiki 1999).

3.1.2 Earlier Egyptian

Earlier Egyptian is the language of all written texts from 3000 to 1300 BC, surviving in formal religious texts until the third century AD. Its main phases are as follows:

- (1) *Old Egyptian* (Edel 1955–64), the language of the Old Kingdom and of the First Intermediate Period (3000–2000 BC). The main documents of this stage of the language were royal rituals such as the ‘Pyramid Texts’, and funerary texts, especially ‘autobiographies’ which contained accounts of individual achievements inscribed in the rock tombs of the administrative elite. Additionally, a limited number of letters and business documents survive from this period.

- (2) *Middle Egyptian* (Gardiner 1957), also termed ‘Classical Egyptian’, from the Middle Kingdom to the end of Dynasty XVIII (2000–1300 BC). Middle Egyptian was the language of classical Egyptian literature, which consisted of ritual texts, for example the ‘Coffin Texts’ inscribed on the sarcophagi of the administrative elite; wisdom texts that conveyed the educational and professional expectations of contemporary Egyptian society, for example the ‘Instructions of the Vizier Ptahhotep’; narratives relating adventures of a specific hero and representing individual concerns, the most famous specimen of this genre being the ‘Tale of Sinuhe’; hymns and poetical texts with religious contents, written in praise of a god or of the king. Besides literary texts, administrative documents, for example the Kahun papyri, and historical records comprise the Middle Egyptian corpus.
- (3) *Traditional Egyptian*, the language of religious texts (rituals, mythology, hymns) from the New Kingdom to the end of Egyptian civilization. Late Middle Egyptian coexisted with Later Egyptian for more than a millennium in a situation of diglossia (Vernus 1996: 560–4). From a grammatical point of view, Late Middle Egyptian maintained the linguistic structures of the classical language, but on the graphemic side, especially in the Greco-Roman period, it showed an enormous expansion of the set of hieroglyphic signs.

Earlier Egyptian was characterized by a preference for synthetic grammatical structures: it displayed a full set of morphological suffixes indicating gender and number; it exhibited no definite article; it maintained the VSO order in verbal formations:

- (1) *sdm* *zh3w n sb3.t-j*
listen(PROSP) scribe to teaching.FEM-me
‘May the scribe listen to my teaching.’

3.1.3 Later Egyptian

Later Egyptian is documented from Dynasty XIX down to the Middle Ages (1300 BC–AD 1300). Its main phases were as follows:

- (1) *Late Egyptian* (1300–700 BC), the language of written records from the second part of the New Kingdom (Černý and Groll 1984; Junge 2008; Neveu 1996). It conveyed the rich entertainment literature of Dynasty XIX, consisting of wisdom texts and tales, as well as new literary genres, such as mythology or love poetry. Late Egyptian was also the vehicle of Ramesside bureaucracy, as documented by the archives of the Theban necropolis or

by school texts. Late Egyptian was not a wholly homogeneous linguistic reality; rather, the texts of this phase of the language show various degrees of interference from classical Middle Egyptian, with a tendency for older or more formal texts, such as historical records or literary tales, to display a higher number of borrowings from the classical language, as opposed to later or administrative texts, in which Middle Egyptian forms are much rarer (Winand 1992: 3–25).

- (2) *Demotic* (seventh century BC to fifth century AD), the language of administration and literature from the pharaonic Late Period to Late Antiquity (Johnson 1991). While grammatically close to Late Egyptian, it radically differs from it in its graphic system. Important texts in Demotic are narrative cycles and moral instructions (Hoffmann 2000; Quack 2005).
- (3) *Coptic* (fourth to fourteenth century AD), the language of Christian Egypt, written in a variety of the Greek alphabet with the addition of six Demotic signs to indicate Egyptian phonemes absent from Greek (Lambdin 1983; Layton 2004). As a spoken, and gradually also as a written language, Coptic was superseded by Arabic from the ninth century onward, but it survives to the present time as the liturgical language of the Christian church of Egypt and in a few linguistic traces it left in spoken Egyptian Arabic (Vittmann 1991).

Besides displaying a number of phonological evolutions, Later Egyptian develops analytic features: suffixal markers of morphological oppositions are dropped and functionally replaced by prefixal indicators; the demonstrative 'this' and the numeral 'one' evolve into the definite and the indefinite article; periphrastic patterns in the order SVO supersede older verbal formations (Hintze 1950):

- (2) *mare-p-sah sôtm e-ta-sbô*
OPT-the-scribe listen to-the(FEM)my-teaching
'May the scribe listen to my teaching.'

3.1.4 Dialects

Owing to the centralized nature of the political and cultural models underlying the evolution of Ancient Egyptian society, there is hardly any evidence of dialect differences in pre-Coptic Egyptian (Osing 1975; Lüddeckens 1975). However, although the writing system probably originated in the south of the country, the origins of the linguistic type represented by Earlier Egyptian are to be seen in northern Egypt, around the city of Memphis, which was the capital of the country during the Old Kingdom. The linguistic

origins of Later Egyptian lie in southern Egypt, in the region of Thebes, which was the cultural, religious, and political centre during the New Kingdom (Zeidler 1992: 208; Schenkel 1993: 148).

Coptic is known through a variety of dialects differing mostly in the graphic rendition of Egyptian phonemes, and to a lesser extent also in morphology and lexicon. The most important dialect was Sahidic (from Arabic *al-ša'id* 'Upper Egypt'), the written standard of the Theban area. Sahidic was the first dialect of Coptic literature. Bohairic (from Arabic *al-buḥayra* 'Lower Egypt'), the dialect of Alexandria, eventually became the language of the liturgy of the Coptic church. Other important dialects of Coptic literature were Akhmimic from the city of Akhmim (Greek Panopolis) in Upper Egypt; Subakhmimic, also called Lycopolitan or Lycodiosopolitan, spoken in the area of Asyut (Greek Lycopolis) in Middle Egypt; and Fayyumic, the variety of Coptic from the oasis of Fayyum, in the upper western corner of the Nile valley (Kasser 1991b).

3.2 Writing systems




3.2.1 Principles

The basic graphic system of the Egyptian language from about 3000 BC to the first centuries of the common era is called 'hieroglyphs' (Fischer 1977). This term is the Greek counterpart to the Egyptian expression *mdw.w-ntr* 'god's words'. Hieroglyphs were used primarily for monumental purposes, their main material support being stone – less frequently, papyrus. For cursive uses, the hieroglyphic system developed two handwritten varieties: Hieratic, documented from the Old Kingdom to the third century AD, and Demotic, from the seventh century BC to the fifth century AD. Beginning in Hellenistic times, hieroglyphs and their manual varieties were gradually superseded by alphabetic transcriptions of words, and then of whole texts, inspired by the Greek alphabet with the addition of Demotic signs to render Egyptian phonemes unknown to Greek. The final result of this process was the emergence of Coptic. Unlike other writing systems of the Ancient Near East, for example Mesopotamian cuneiform, hieroglyphs were never used to write down any language other than Egyptian, except for their later adoption in Nubia for the writing of Meroitic (third century BC to fourth century AD; Wenig 1982). However, the Proto-Sinaitic inscriptions of the second millennium BC (Givón 1982) show that Hieratic signs may have inspired the shape of Northwest Semitic consonantal signs. As for Demotic, some of its sign groups were adopted and phonetically reinterpreted in Meroitic.



Because of the formal similarities with Egyptian hieroglyphs, the term 'hieroglyph' has also been applied to the writing system of Luwian, an Anatolian language related to cuneiform Hittite, spoken and written during the Late Bronze and Iron Ages (between

c. 1500 and 700 BC) in southern and southwestern Anatolia and northern Syria: hence the misleading designation 'Hittite hieroglyphs' with which they are often referred to (Gelb 1963: 81–4).

The Egyptian hieroglyphs constitute a variable set of graphemes, ranging from about 1,000 in the Old Kingdom (third millennium BC) down to approximately 750 in the classical language (second millennium BC), then increasing to many thousands during the Ptolemaic and Roman rule in Egypt, from the third century BC to the second century AD. They are pictographic signs representing entities and objects, such as gods or categories of people, animals, parts of the human or animal body, plants, astronomical entities, buildings, and furniture. But these pictograms are not organized within a purely ideographic system; rather, they represent a combination of phonological and semantic principles (Schenkel 1984). The graphic representation of an Egyptian word usually consists of two components:


























(1) A sequence of phonograms, each of which represents a sequence of one, two, or three consonantal phonemes; hence their label as 'monoconsonantal' (such as  <m>), 'biconsonantal' (such as  <p-r>), or 'triconsonantal' signs (such as  <h-t-p>). Phonograms convey a substantial portion of the phonological structure of the word: normally all the consonants, less regularly the (semiconsonantal) glides *j* and *w*. The vowels remain unexpressed in the writing. Bi- and triconsonantal signs may be accompanied by other phonograms, mostly monoconsonantal, which spell out one or two of their phonemes, allowing in this way a more immediate interpretation of the phonological sequence; these signs are called phonetic complements.





Egyptian writing displays a set of twenty-five signs of monoconsonantal value (see table 3.1). Although these cover almost completely the inventory of consonants and glides – an exception being the liquid /l/, conveyed by the graphemes <n>, <r>, or <n + r> – the hieroglyphic system never became fully phonetic, but always maintained the original combination of logograms and phonograms.



The phonological value of the phonograms is derived from the name of the represented entity by means of the rebus principle, i.e., by applying the same phonological sequence to other entities semantically unrelated to them. For example, from the representation of water,  **maw*, is derived the phonological value of this sign as /m-w/. In this process of derivation, called the consonantal principle, only a segment of the original sequence of phonemes of the represented entity, usually consisting of the strong consonants, is isolated to function as a phonogram: thus, the sign for a house,  **pa:ruw*, is used for the sequence /p-r/. In later times, the consonantal principle was expanded by the so-called 'acrophonic principle', i.e., the derivation of a phonological value from the first consonantal sound of the represented entity.


(2) The sequence of phonograms is usually followed by a semagram, called a determinative, which classifies a word according to its semantic sphere: for example, a

Table 3.1 *Mono-consonantal hieroglyphic signs.*


Sign	Entity depicted	Conventional transliteration	Phonological value (IPA)
	vulture	ʒ (aleph)	earlier /r/ > later /ʔ/
	flowering reed	j (yod)	earlier /j/ > later /ʔ/
	two reed flowers	y	/j/
	human forearm	^c (ayin)	earlier /d/ > later /ʃ/
	quail chick	w (waw)	/v/
	lower leg with foot	b	/b/
	stool	p	/p ^h /
	horned viper	f	/f/
	owl	m	/m/
	water	n	/n/
	human mouth	r	/ɾ/
	reed shelter	h	/h/
	twisted wick	ḥ	/ħ/
	placenta	ḫ	/x/
	animal's belly	ḥ	/ç/
	door bolt	z	earlier /ʃs/ > later /s/
	folded cloth	s	/s/
	pool or lake	š	/ʃ/
	hill slope	q	/q/
	basket with handle	k	/k ^h /
	stand for a jar	g	/k ^ʔ /
	bread loaf	t	/t ^h /
	tethering rope	ṯ	/c ^h /
	human hand	d	/t ^ʔ /
	snake	ḏ	/c ^ʔ /

sitting man () expresses the lexical realm of 'man, mankind'; a sitting man touching his mouth () the domain of 'eating, speaking, thinking, sensing'; a scribe's equipment () the area of 'writing'; a stylized settlement () identifies the word as a toponym.

Many items of the basic vocabulary of Egyptian are expressed by semagrams, which indicate their own semantic meaning. They do this (i) iconically, by reproducing the object itself; (ii) indexically, by portraying an entity whose name displays a similar phonological structure; or (iii) symbolically, by depicting an item metaphorically or metonymically associated with the object. These signs are called logograms or ideograms: for example, the hieroglyph which represents the enclosure of a house  is used to indicate iconically the concept 'house' (*prw*); the sign representing a duck  means 'son' (*zʒ*) by virtue of the phonetic similarity between the Egyptian words for

'duck' and for 'son'; the cloth wound on a pole , a sacred emblem placed on the pylons of Egyptian temples, through symbolic association denotes 'god' (*ntr*).

Unlike most other systems of pictographic origin, such as Mesopotamian cuneiform or Chinese logograms, Egyptian hieroglyphs kept their original iconicity throughout their entire history without developing stylized forms. From about 2150 BC, Egyptian developed a subsystem of hieroglyphic orthography to express a sequence of consonant + vowel. In this subsystem, dubbed 'syllabic orthography' (Schneider 1992; Zeidler 1993; Hoch 1994: 487–504) and mostly used for the writing of words of foreign origin, three consonantal symbols (*3*, *y*, *w*) were used to express vowels, in a procedure similar to the use of *matres lectionis* in Northwest Semitic orthography. This system, however, is not limited to the representation of 'foreign words' but also often used to bridge the gap between a historical writing of a word and its phonetic changes.

The writing system also possessed a set of hieroglyphic signs used to convey logarithmically the numbers 10^0 : 10^6 and the fractions $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{1}{4}$ (Loprieno 1986). To indicate natural numbers, signs appear repeated and organized sequentially from the highest to the lowest (, $356 = 3 \times 100, 5 \times 10, 6 \times 1$).

The basic orientation of the Egyptian writing system, and the only one used in the cursive varieties, is from right to left, with signs facing to the right; in monumental texts, the order may be inverted to left to right for reasons of symmetry or artistic composition.

Hieroglyphic writing conventions could be modified by addressing the figurative content of the sign. First, signs could become the vehicle for the expression of a cultural attitude vis-à-vis the entity it represented. For example within a compound, signs referring to the divine or royal sphere preceded in the writing any other sign belonging to the same compound noun, regardless of their actual syntactic positions. Conversely, a sign referring to a negatively connotated entity (for example an enemy) could be modified by means of substitution or mutilation of one of its features, in order to neutralize its negative potential. Second, the array of functional values of a specific sign could be expanded beyond the limits of the fixed convention: a sign could be given a different phonological value from the traditionally established one, especially by using it to indicate only the first consonantal phoneme of the corresponding word according to the acrophonic principle. This type of connotational expansion of the hieroglyphic system is found sporadically from the Old Kingdom on, but developed dramatically in Ptolemaic times, leading to a radical change in the laws regulating the use of hieroglyphs.

3.2.2 Historical evolution

While the principles described herein basically apply to the entire history of Egyptian writing, their distribution varied somewhat in the course of time. In the archaic period

around 3000 BC, the emergence of writing in Egypt was associated with a gradual development of a centralized system of government covering the entire country. In the inscriptions from this period on seals, palettes, and other monuments pertaining to the royal or administrative sphere, phonological and semantic principles were already intertwined, with a high number of signs functioning as logograms (Kahl 1994). In the Old Kingdom (Dynasty III–VI, 2750–2150 BC), the quantity and the complexity of written documents expanded dramatically. Phonetic complementation might precede or follow the main sign. In the classical system of the Middle Kingdom (2050–1750 BC), which remained in use until the end of Dynasty XVIII (c. 1300 BC), a developed school system for the education of the bureaucratic elite fixed Egyptian orthography by reducing the number of graphic renditions allowed for any given word. The conventional orthography of the word usually consisted of either a logogram, for the most basic nouns of the lexicon, or a sequence of phonograms, often complementized, followed by a determinative. The inventory of hieroglyphs at this period totalled about 750 signs (Gardiner 1957: 438–548). During Dynasty XIX (1310–1195 BC), major changes affected the writing conventions of hieroglyphs and especially of Hieratic. In monumental texts, the space units within which sequences of hieroglyphs were formally arranged underwent an aesthetic readjustment. Changes were even more significant in manual writing, with a constant interface between traditional historical writing and the evolved phonetic reality.

With the decay of a powerful centralized government in the first millennium BC, centrifugal tendencies affected writing conventions as well. During Dynasty XXVI (seventh century BC), the cursive variety called Demotic developed – at first in the north of the country, where the royal residence was located – and was gradually extended to the southern regions. Unlike Hieratic, which had sign groups that mirrored the shape of the original hieroglyphs rather closely, Demotic signs broke away from this tradition and adopted a set of stylized, conventional forms, in which the connection to the hieroglyphic counterpart was hardly perceivable, and which proved therefore more likely to be used in purely phonetic function. Determinatives had to a large extent lost their function as lexical classifiers. The development of Demotic marked the beginning of a divorce between monumental and cursive writing, which would have a dramatic impact on the evolution of the hieroglyphic system as well. Demotic remained in literary and administrative use until the end of the Roman period.

In Ptolemaic and Roman times (fourth century BC to third century AD), an increasing consciousness of the symbolic potential inherent in the relation between hieroglyphic signs and semantic meanings led to the development of previously unknown phonetic values and also of so-called 'cryptographic solutions'. This evolution, which originated in priestly circles and remained until the end the monopoly of a very restricted intellectual community, threatened the accessibility of the system, favouring a dramatic increase in

Table 3.2 *The Coptic alphabet.*

Character	Transcription	Character	Transcription	Character	Transcription
Ⲁ	a	Ⲡ	m	ⲱ	ps
Ⲃ	b	ⲡ	n	ⲳ	ô
Ⲅ	g	Ⲣ	ks	ⲵ	š
Ⲇ	d	ⲣ	o	ⲷ	f
Ⲉ	e	Ⲥ	p	ⲹ	x
Ⲋ	z	Ⲧ	r	ⲻ	h
Ⲍ	ê	Ⲩ	s	ⲽ	j
Ⲏ	th	Ⲫ	t	ⲿ	c
Ⲑ	i	Ⲭ	u	Ⲿ	ti
Ⲓ	k	Ⲯ	ph		
Ⲕ	l	Ⲱ	kh		

the number of signs, which at the time reached many thousands (Daumas 1988–95), and exploiting the full array of potential meanings of the hieroglyphic sign. And it was exactly this radical change in the nature of the writing system in the Greco-Roman period which was at the origin of the view, held in the western world from Late Antiquity to the emergence of modern Egyptology, of the symbolic, rather than phonological, character of the hieroglyphic writing (Fowden 1986: 13–74). With few exceptions, the Ptolemaic system was applied only to monumental writing.

3.2.3 Coptic

The first two centuries AD saw the development of a corpus of mostly magical Egyptian texts in Greek letters, with the addition of Demotic signs to supplement it when phonologically required. This corpus is called in the scholarly literature ‘Old Coptic’. The adoption of an alphabetic system was standardized with the Christianization of the country, when religious reasons contributed to the divorce between Egyptian culture and its traditional writing systems. The last dated hieroglyphic inscription is from the year AD 394. Demotic texts substantially decrease in number, Egyptian being replaced by Greek as a written language (Bagnall 1993: 235ff.). The last Demotic graffito is dated to AD 452. In the following century, the new convention, which we call Coptic, appears completely established: the Egyptian language was written in a Greek-derived alphabet (see table 3.2). By the fifth century, the Egyptian elite had already lost the knowledge of the nature of hieroglyphs: the *Hieroglyphiká* of Horapollo, a Hellenized Egyptian, offer a ‘decipherment’ of the hieroglyphs fully echoing the late antique symbolic speculations (Boas and Grafton 1993). However, Egypt remained a bilingual country, with Greek used for the administration and Coptic for everyday communication as well as religious

matters. The Greek influence on Coptic was rather heavy, as to a certain extent even particles have been taken over into Coptic. Initially the ruling Arab elite did not alter the situation but simply added Arabic as the language of the highest representatives of the court in Cairo. Yet, gradually, the latter replaced Greek as the means of administrative communication, and finally even Coptic receded to the Christian religious sphere (Papaconstantinou 2007). Already the Coptic grammar written in Arabic by Athanasius of Qus tells the reader that only Sahidic and Bohairic have survived, while the Bashmuric dialect is extinct already (Bauer 1971).

3.2.4 Decipherment

The interest in matters Egyptian remained active in the West for the centuries that followed (Iversen 1961: 57–123), but it was only in modern times that the understanding of the writing system was recovered. In the seventeenth century Athanasius Kircher recognized the linguistic derivation of Coptic from the language of the hieroglyphs (which he still took to be a symbolic writing), and in the eighteenth century Jean Barthélémy suggested that the cartouches, which surround some hieroglyphic words, contained divine and royal names. In 1799, during Napoleon’s expedition to Egypt, the discovery of the so-called ‘Rosetta Stone’, a trilingual (Hieroglyphic, Demotic, and Greek) document from the Ptolemaic period, found in the Egyptian town of Rosetta (from Arabic ‘Al-Rashid’), provided the possibility of comparing the same text in two unknown writing systems (Demotic and hieroglyphs) and in Greek; this event opened the way to the actual decipherment. First results were achieved by the Swede Johan David Åkerblad for the Demotic section and especially by the English physician Thomas Young, who, however, did not progress beyond the royal names. The most decisive contribution to the decipherment was made by the French scholar Jean-François Champollion in his *Lettre à M. Dacier* (1822), and especially in the *Précis du système hiéroglyphique* (1824). On the basis of the writing of Greek names in the hieroglyphic text, Champollion was able to establish the presence of a phonetic component in the system, breaking away from the traditional symbolic approach (Iversen 1961: 124–45).

3.3 Phonology

3.3.1 Phonemes and graphemes

The exact phonological value of many Egyptian phonemes is obscured by difficulties in establishing reliable Afroasiatic correspondences (Schenkel 1990: 24–57). Vocalism

and prosody can be partially reconstructed on the basis of: (i) Akkadian transcriptions of Egyptian words and phrases from the second millennium BC; (ii) Greek transcriptions from the Late Period (corresponding roughly to spoken Demotic); and (iii) the Coptic evidence of the first millennium AD. In the sketch of Egyptian phonology presented below, Egyptological transliterations of words and phrases are given in italics, whereas underlying phonological realities are rendered between slashes. The latter, since they are scholarly reconstructions, are always preceded by an asterisk (note that by convention a dot is used to separate the root from morphological affixes, e.g., *sn.t* 'sister' < root *sn* + feminine marker *t*). As for Coptic, in spite of a certain number of graphic idiosyncrasies, all dialects share a relatively uniform phonological system. For example, the graphic conventions of Sahidic – as opposed to those of Bohairic – do not distinguish between voiceless and ejective plosives (Sahidic *tôre*, Bohairic *thôri* = /tʰo:ɾə/ 'willow' ~ Sahidic *tôre*, Bohairic *tôri* = /tʰo:ɾə/ 'hand'); or between glottal and velar fricatives (Sahidic *hrai*, Bohairic *hrai* = /hɾaj/ 'above' ~ Sahidic *hrai*, Bohairic *xrai* = /xɾaj/ 'below'). Yet the presence of the corresponding oppositions in Sahidic can be established on the basis of comparative dialectology and of the different impact of these phonemes on their respective phonetic environment (Loprieno 1995: 40–50).

3.3.2 Consonants

3.3.2.1 Stops and affricates

The standard stops of Earlier Egyptian are presented in (3).

earlier Egyptian stops

(3)	BILABIAL	ALVEOLAR	PALATAL	VELAR	UVULAR	GLOTTAL
Voiced	<i>b</i> /b/	(^c /d/)	–	–	–	–
Voiceless	<i>p</i> /pʰ/	<i>t</i> /tʰ/	<i>t̪</i> /cʰ/	<i>k</i> /kʰ/	<i>q</i> /q/	<i>ʔ</i> /ʔ/
Ejective	–	<i>d</i> /tʰ/	<i>d̪</i> /cʰ/	<i>g</i> /kʰ/	–	–

In prehistoric times, a palatalization process led to the emergence of palatal stops. Only the environment rule for the change /kʰ/ > /cʰ/, however, can be established with certainty (4b).

- (4a) Afroasiatic *q* > Eg. *c*ʰ
 *√*wrq* 'green, yellow' > *wʔɹd* /w-ɾ-cʰ/

- (4b) Afroasiatic *k* > Eg. *c*ʰ / _ *i*
 *-*ki* 'you(SG.FEM)' > *-t̪* /cʰi/

In the Egyptian phonological system, the opposition between voiceless and voiced phonemes (Schenkel 1993: 138–46) appears limited to bilabial stops (5a), whereas in the other series the articulatory opposition – when present – was between voiceless and

ejective stop or affricate (5b–c). The voiceless varieties displayed aspiration in pretonic and high-sonority environments.

- (5a) bilabial /b/ ~ /pʰ/: Earlier Eg. *bʔq* 'bright' ~ *pʔq* 'fine'
 (5b) dental /tʰ/ ~ /tʰ/: Earlier Eg. *tm* 'to complete' ~ *dm* 'to sharpen'
 (5c) palatal /cʰ/ ~ /cʰ/: Earlier Eg. *trt* 'willow' ~ *dr̪t* 'hand'

Etymological considerations, however, point towards a general development of voiced stops into fricatives. The dental series was typologically complex: while it probably exhibited a tripartite opposition voiceless–voiced–ejective in the earliest periods, the voiced stop */d/ evolved into a pharyngeal fricative */ʕ/ before the emergence of Middle Egyptian (Zeidler 1992: 206–10), and then to a glottal stop, and eventually zero, in Coptic (6a). During the late third to the early second millennium BC, the voiceless alveolar /t/ showed the tendency to be dropped in final position (6b).

- (6a) */d/ > */ʕ/ > /ʕ/ or /ø/:
 Old Eg. ^c*š* */da:/ > Late Eg. */ʕa:/ > Coptic *ôš* /ʕo:/ 'to call'
 (6b) *t* > ø / _ #:
 Old Eg. *sn.t* */sa:nat/ > Late Eg. */sa:ne/ > Coptic *sône* /so:nə/ 'sister'

During the late second millennium BC, the place of articulation of stop consonants tended to be moved to the frontal region (Osing 1980: 946): uvulars and velars were palatalized (7) (Peust 1999: 120–2), palatals became dentals, and dentals were dropped in final position (8) (Peust 1999: 123–5):

Uvular and velar palatalization

- (7a) Late Eg. *kʔm* */kʰaʔm/ > Coptic *côm* /kʰo:m/ 'garden'
 (7b) Old Eg. *gr* */kʰa:ɾ/ > Coptic *cô* /kʰo:ʔ/ 'to cease'
 (7c) Old Eg. *qd* */qatʰ/ > Coptic *cot* /kʰɔt/ 'form'

Palatal > dental; dental > ø / _

- (8a) Old Eg. *dr̪t* */cʰa:ɾat/ > Late Eg. */tʰa:ɾe/ > Coptic *tôre* /tʰo:ɾə/ 'hand'
 (8b) Old Eg. *rm̪t* */ɾa:mac/ > Late Eg. */ɾa:me/ > Coptic *rôme* /ɾo:mə/ 'man'

Earlier Egyptian had an alveolar affricate *z* /ʕs/ which by the end of the third millennium BC had lost its plosive co-articulation and thus conflated with the alveolar fricative *s* /s/.

The opposition between uvulars and velars was neutralized during the first millennium BC: Coptic exhibited in the velar series a new tripartite opposition, 'voiceless: ejective: palatalized'.

/k^h/ ~ /k^ʔ/ ~ /q/ > /k^(h)/ ~ /k^ʔ/ ~ /k^j/

(9a) *kô* /k^ho:/ 'shrine' (from Eg. */k^h/) ~ *cô* /k^jo:/ 'to cease' (from Eg. */k^ʔ/)

(9b) *côb* /k^jo:b/ 'weak' (from Eg. */k/ ~ *côb* /k^ʔo:b/ 'to double' (from Eg. */q/)

(9c) *cot* /k^jot/ 'form' ~ *kot* /k^ʔot/ 'wheel' (both from Eg. */q/)

The standard aspiration of the plain stops in Earlier Egyptian was subject to allophonic distribution: as in some varieties of English, aspiration appeared only in stressed syllables. The feature aspiration was marked in writing only in Bohairic Coptic (Hintze 1980: 28). Under certain conditions, the stop /c/ developed into an affricate, since it might also represent word-initial etymological /t/ + /ʃ/ (as in *jpo* 'give birth' < *t-špo). The bilabial voiced stop /b/ was mostly articulated as a fricative [β], but maintained in certain environments the plosive articulation (Peust 1999: 136–7) – see example (10).

Stops and affricates in Sahidic Coptic

(10)	BILABIAL	DENTAL	PALATAL	VELAR	GLOTTAL
Voiced	b /b/	d /d/	—	g /g/	—
Voiceless	p /p ^(h) /	t /t ^(h) /	j /c ^(h) /	k /k ^(h) /	ø /ʔ/
Ejective	—	t /t ^ʔ /	j /c ^ʔ /	k /k ^ʔ /	—
Palatalized	—	—	—	c /k ^j /	—

It should be noted that the opposition between voiceless and ejectives was neutralized in post-tonic position (11a), and that voiced dentals and velars are only found in Greek borrowings or as a result of assimilation of the corresponding voiceless obstruent in nasal environments (11b).

(11a) *sôtm* /so:təm/ < /so:t^ʔəm/ 'to hear' ~ *sôtp* /so:təp/ < /so:t^həp/ 'to choose'

(11b) *tooun-g* < *tooun-k* 'stand up!'

3.3.2.2 Fricatives

In Old Egyptian, all fricative consonants were voiceless; in Middle Egyptian, as we saw in (6), a pharyngeal /ʕ/ evolved from earlier /d/ via lateralization.

Fricatives in Earlier Egyptian

(12)	LABIO-DENTAL	ALVEOLAR	POST-ALVEOLAR	PALATAL	VELAR
Voiceless	f /f/	s /s/	ʃ /ʃ/	ħ /ç/	ħ /x/
Voiced	—	—	—	—	—
	PHARYNGEAL	GLOTTAL			
Voiceless	ħ /ħ/	h /h/			
Voiced	(^c /ʕ/)	—			

The post-alveolar fricative resulted from a conditioned sound change /ç/ > /ʃ/ which took place in the third millennium BC. The original alveolar affricate *z* merged by the end of the third millennium BC with the alveolar *s* (/ts/ > /s/). In the first millennium BC, the tripartite opposition between the back coronal and the dorsal fricatives (/ʃ/ ~ /ç/ ~ /x/) was reduced to a bipartite one (/ʃ/ ~ /x/), with a partial redistribution of the original articulation (Peust 1999: 115–18):

(13a) */x/ > /ʃ/:

Old Eg. *ḥm* */da:xam/ > Late Eg. */ʕa:xem/ > Coptic *ôšm* /ʔo:ʃəm/ 'to extinguish'

(13b) */ç/ ~ /x/:

Old Eg. *zh3w* */ʕa:çaw/ > Late Eg. */saçʔə/ > Coptic *sah* /sax/ 'scribe'

Old Eg. *ḥm* */da:çamv/ > Late Eg. */ʕa:çam/ > Coptic *ahôm* /ʔaxo:m/ 'falcon'

In the first millennium BC a similar neutralization affected the opposition between pharyngeal /ħ/ and glottal /h/ (Osing 1976: 367–8; Peust 1999: 98–9):

(14a) Old Eg. *h3t* */ħu:rit/ > Late Eg. */ħe:ʔə/ > Coptic *hê* /ħe:ʔ/ 'beginning'

(14b) Old Eg. *h3w* */ħaruw/ > Late Eg. */ħəʔe:ʔ/ > Coptic *hê* /ħe:ʔ/ 'season'

The distribution of fricative phonemes in Sahidic Coptic was thus in (15).

Fricatives in Sahidic Coptic

(15)	LABIO-DENTAL	ALVEOLAR	PALATO-ALVEOLAR	VELAR	GLOTTAL
Voiceless	f /f/	s /s/	ʃ /ʃ/	ħ /x/	h /h/
Voiced	b /β/	z /z/	—	—	—

It should be noted that the voiced alveolar fricative *z* is only found in Greek borrowings or as a result of feature spreading in nasal environments:

(16) Coptic *anzêbe* < /ʔanze:bə/ < /ʔanse:bə/ 'school'

3.3.2.3 Sonorants

Historical evolutions affecting nasals, liquids, and glides during the second millennium BC (Loprieno 1995: 38) involved: (i) the loss of the uvular trill /ʀ/ and its lenition to glottal stop /ʔ/ and eventually to ø (17); and (ii) the loss of final approximants (18) in the same environments in which a final voiceless dental *t* was dropped, as in (8):

/r/ > /ʀ/ > Ø

- (17) Old Eg. *k3nw* */kʰaʀnaʊ/ > Late Eg. */kʰaʀm/ > Coptic *côm* /kʰo:m/ 'garden'

[+Approximant] > Ø / __#

- (18a) Old Eg. *hpr* */xa:paɪ/ > Late Eg. */xa:pe/ > Coptic *šôpe* /ʃo:pə/ 'to become'
- (18b) Old Eg. *ntr.w* */nacʰu:ɪaʊ/ > Late Eg. */nəʰe:ɪə/ 'gods' > Coptic *ntêr* */pʰe:ɪ/ 'idols'

The reconstruction of the rhotics is complicated by different facts: etymological considerations would opt for an approximant /ɹ/, which also provides the best explanation for the graphic representation of /ɹ/ by <r> as well as the later attested Lamdacism, i.e., the graphic representation of words containing <r> by <l>, e.g., ^{SAL}*rôme*, ^B*rômi* = ^F*lami*, in Fayyumic Coptic (Peust 1999: 130–1) and Fayyumic Greek (Milani 1981: 221–9). However, the graphic representation of Semitic words containing /d/ in the early second millennium, such as Semitic *ʿbd* 'servant' > Eg. *ʿpr* or Sem. *ʿdš-n* 'lentil' > Eg. *ʿršn* > Coptic *aršin*, as well as the representation of some Egyptian words in contemporary foreign languages, such as Eg. *ry(t)* 'ink' > Hebr. *dyw*, seem to point to the articulation of this phoneme as flap or tap. Whether this should be considered a diachronic development (Earlier Eg. /r/ > Later Eg. /ɹ/) or a synchronic distribution (Earlier Eg. [r] ~ [ɹ] conflating into Later Eg. [ɹ]) must remain undecided.

Sonorants in the Egyptian domain

(19)	LABIAL	ALVEOLAR	PALATAL	UVULAR
Nasal	<i>m</i> /m/	<i>n</i> /n/		
Trill				ʀ/ʁ/
Approximant	<i>w</i> /ʋ/	<i>r</i> /ɹ/	<i>j</i> /j/	
Lateral		/l/		

3.3.3 Vowels

The set of vowels posited for Earlier Egyptian (Osing 1976: 10–30) is the same as for most Afroasiatic languages in their earliest stage of development (Diakonoff 1965: 30–1) – see (20).

Vowels in Earlier Egyptian

(20)	SHORT	LONG
Front	/i/	/i:/
Central	/a/	/a:/
Back	/u/	/u:/

This system underwent a certain number of historical changes, only some of which can be discussed here. First and foremost, because of the presence of a strong expiratory stress, Egyptian unstressed vowels gradually lost phonological status, until in Coptic they were generally realized as schwa. Only the short unstressed /a/ was maintained in pretonic position in specific phonetic environments (Schenkel 1990: 91–3):

- (21a) Old Eg. *rm̄ nj km.t* */ɹamac-ni-kʰu:mat/ > Coptic *rmnkême* /ɹmpkʰe:mə/ 'Egyptian man'
- (21b) Old Eg. *jnk* */janak/ > Coptic *anok* /ʔanək/ 'I'

Stressed vowels underwent a global shift: during the second millennium BC, long /u:/ turned into /e:/, and short stressed /i/ and /u/ merged into /e/. In the main Coptic dialects and unless followed by glottal stop, this /e/ evolved into /a/:

- (22a) Old Eg. *rn* */ɹin/ > Late Eg. */ɹen/ > Coptic *ran* /ɹan/ 'name'
- (22b) Old Eg. *mʕ.t* */murdat/ > Late Eg. */meʔʕə/ > Coptic *me* /meʔ/ 'truth'
- (22c) Old Eg. *km.t* */kʰu:mat/ > Late Eg. */kʰe:me/ > Coptic *kême* /kʰe:mə/ 'Egypt'

Around 1000 BC, long /a:/ became /o:/ (/u:/ after nasals) and short /a/ became /o/, a change limited to the same portion of the Coptic linguistic domain to which /i/, /u/ > /e/ applied:

- (23a) Old Eg. *ntr* */na:caɪ/ > Coptic *noute* /nu:tə/ 'God'
- (23b) Old Eg. *sn* */san/ > Coptic *son* /sɔn/ 'brother'

Vowels in Sahidic Coptic

(24)	FRONT	CENTRAL	BACK
Stressed			
Long	<i>i, ei</i> /i:/		<i>ou</i> /u:/
	<i>ê</i> /e:/		<i>ô</i> /o:/
Short	<i>e</i> /ɛ/	<i>a</i> /a/	<i>o</i> /ɔ/
Unstressed			
		<i>e</i> /ə/	
		<i>a</i> /a/	

3.3.4 Phonotactics, alternations, and prosody

In Earlier Egyptian, the stress lay on the ultimate (oxytone) or penultimate (paroxytone) syllable of a word (Schenkel 1990: 63–86). Closed (cvc) and open (cv) syllables could

be found in pre-tonic, tonic, and post-tonic position. Two consecutive open syllables forming a moraic foot were exposed to syncopation (CV.CV > CVC). The stressed vowel of a penultimate open syllable was always long (CV:); according to some scholars, extra-syllabic additions under oxytone stress could generate syllables of the type CV:(c) or CVC(c) (Loprieno 1995: 36–7). Syllables of the type v or vc were not allowed in Egyptian (see 25).

Earlier Egyptian syllabic structures

(25)	PRE-TONIC	TONIC	POST-TONIC
Open	\$CV\$	\$CV:\$	\$CV#
Closed	\$CVC\$	\$CVC\$	\$CVC#
Doubly closed		\$CVCC\$	
Long		\$CV:c\$	

These syllabic structures were modified under the influence of the strong expiratory stress, which always characterized the Egyptian domain (Fecht 1960) and prompted significant typological changes in morphology and syntax. The gradual loss of short unstressed vowels led to the emergence of complex consonantal clusters in syllable onset (i.e., word-initially) in Coptic (Loprieno 1995: 48–50) – see (26).

Coptic syllabic structures

(26)	PRE-TONIC	TONIC	POST-TONIC
Open	\$CV\$ #CCV\$	\$CV:\$ #CCV:\$	\$CV#
Closed	\$CVC\$ #CCVC\$	\$CVC\$ #CCVC\$	\$CVC\$
Doubly closed		\$CVCC\$ \$CVCC\$	
Long		\$CV:c\$ #CCV:c\$	

Syllables graphically represented as <v> or <vc> are considered to contain an initial glottal plosive /ʔ/, as in *ejêu* /ʔecʰe:w/ ‘ships’. Examples for the evolution of oxytone patterns are:

- (27a) CVCVC > CCVC

Old Eg. *wđḥ* */vaʰcʰah/ > Coptic *outah* /vʰtʰah/ ‘fruit’

- (27b) CVCCVC > CVCCVC

Old Eg. *nmḥw* */numʰiw/ ‘poor’ > Coptic *rmhe* /ɛəmʰeʔ/ ‘free’

Examples for the evolution of paroxytone patterns:

- (28a) 'CVCCVC > CVCC

Old Eg. *ḥmtw* */xamtau/ > Bohairic *šomt* /ʃomt/ ‘three’

- (28b) CV'CVCCVC > CCVCC

Old Eg. *ḥjm.wt* */ḥiʰjamvat/ > Coptic *hiome* /hjomʔ/ ‘women’

- (28c) CV'CVCVC > CCVC

Old Eg. *psdw* */piʰsɛcʰav/ > Coptic *psit* /psi:t/ ‘nine’

Earlier Egyptian displayed only few phonological or morphophonemic alternations. The most common were the evolution of *t* and *r* to /ʔ/ and eventually to \emptyset in a final syllabic environment (*jtrw* */jatɾaw/ > Sahidic *ioor* /joʔɾ/ ‘river’; *ḥr* */ḥaɾ/ > Sahidic *ho* /hoʔ/ ‘face’). Typical for Coptic, but sporadically attested in earlier times, was the progressive assimilation of *n* > *m* in a labial environment: **hn-p-êi* /hn-p-ʔe:j/ > *hm-p-êi* /hm-p-ʔe:j/ ‘in the house’. The Coptic grammar of Athanasius of Qus reports some more features that are generally veiled by the graphic representation, such as the plosive articulation of Bohairic in the coda position versus a fricative one in the onset of a syllable (Bauer 1971: 56; the other features he reports pertain to Greek words only).

3.4 Morphology

3.4.1 Word formation

Earlier Egyptian was a language of the flecational or fusional type, in which morphemes were unsegmentable units combining many grammatical functions. Morphological forms exhibited a number of correspondences with the patterns of word formation in other Afroasiatic languages (Schenkel 1990: 94–121). In recent years, scholars have also emphasized the importance of prehistoric contacts between Egyptian and Indo-European (Ray 1992: 124–36; Kammerzell 1994: 37–58).

The basic structure of an Egyptian word was a lexical *root*, an abstract phonological entity consisting of a sequence of consonants or semi-consonants which varied in number from one to four, with an overwhelming majority of biconsonantal, triconsonantal, and so-called ‘weak’ roots, which displayed a vocalic or semivocalic last radical or a gemination of the second radical. Within the root, rules of compatibility applied which prevented the combination of homorganic phonemes: e.g., within the same root, the clustering of *b* and *p* was not allowed. Superimposed on the root as a separate morphological tier was a vocalic or semivocalic pattern, which together with the root formed the so-called *stem*, the surface form acquired by the root; the stem determined the

functional class to which the word belonged. It was transformed into an actual word by means of inflectional affixes (in Egyptian, these were for the most part suffixes), which conveyed deictic markers and other grammatical functions such as gender, number, tense and aspect, and voice (Reintges 1994).

Vocalic skeletons generally determined the structure of nominal patterns and of basic conjugational forms, whereas semivocalic suffixes conveyed the expression of the plural, of adjectival forms of the verb (participles and relative forms), and of some conjugational patterns. A *j*- or *w*- prefix could be added to biconsonantal roots to form triradical nominal stems; conversely, a triconsonantal root might lose a semivocalic glide and be reduced to a biradical stem. Examples of consonantal additions prefixed to a root were *s*- for causative stems, *n*- for singulative nouns and reflexive verbs, and *m*- for nouns of instrument, place, or agent. Egyptian stems resulting from the addition of a consonantal phoneme to a root tended to be lexicalized as new autonomous roots rather than treated as grammatical forms of the basic root: Egyptian, therefore, did not possess a fully fledged paradigm of verbal stems conveying semantic nuances of a verbal root similar to the ones known in Semitic.

Common modifications of the root were:

- (a) The reduplication of the entire root or of a segment thereof. This pattern affected the semantic sphere, creating new lexemes – see (29).

(29) ROOT	REDUPLICATION
<i>sn</i> 'brother'	<i>snsn</i> 'to befriend'
<i>gmj</i> 'to find'	<i>ngmgm</i> 'to be gathered'
	(with the <i>n</i> -prefix of reflexivity)
<i>snb</i> 'to be healthy'	<i>snbb</i> 'to greet'

- (b) The gemination of the last radical, which affected the grammatical sphere and was thus a postlexical rule (Reintges 1994: 230–40) – see (30).

(30) ROOT	GEMINATION
<i>dd</i> 'to say'	<i>ddd.t</i> 'what has been said'
<i>mrj</i> 'to love'	<i>mrr-j</i> 'that I love'
<i>sdm</i> 'to hear'	<i>sddm-f</i> 'he will be heard'

3.4.2 Nouns

In Earlier Egyptian, nouns were built by adding to the stem a zero- or a non-zero suffix, depending on whether the stem ended in a consonant, in which case the suffix was zero, or a vowel, in which case a *w*-suffix was added. Nouns inflected for gender (masculine vs feminine) and number (singular, dual, and plural). Case marking might have been

existent in pre-historic phases of the language and even marked by a vowel in Earlier Egyptian, but the latter never showed in writing. The feminine marker was a *t*-suffix added to the masculine noun; the plural displayed a *w*- (appearing as *j* with the feminine sometimes) or *ww*-suffix or showed no graphical marking at all; the dual had a *j*-marker added to the stem of the singular noun – see (31).

Nouns in Earlier Egyptian

(31)	MASCULINE	FEMININE
Singular	- \emptyset , - <i>w</i>	- <i>t</i>
Dual	- <i>wj</i>	- <i>tj</i>
Plural	- \emptyset , - <i>w</i> , - <i>ww</i>	- <i>t</i> , - <i>jt</i> , - <i>wt</i>

Under the pressure of a strong expiratory stress, which reduced the distinctive function of unstressed vowels, the flectional system underwent a profound crisis in Later Egyptian, requiring a reorganization of the morphological carriers of information.

The general trend was to replace synthetic structures by analytic constructions: for example, nominalized participles (32) or abstract nouns (33) were replaced by lexicalized compounds with nominal classifiers (Till 1970: 71–5).

- (32) PARTICIPLE > 'MAN-WHO'-V
t3w *ref-jioue*
 steal(PART) 'man-who'-steal(INF)
 'thief'
- (33) ABSTRACT NOUN > 'THING-OF'-N
r3 nj km.t *mnt-rm-n-kême*
 mouth of Egypt 'THING-OF'-man-of-Egypt
 'Egyptian language'

Thus, because of the loss of regular flectional patterns, the only device by which Coptic conveyed the distinction between different patterns (masculine vs feminine, nominal vs verbal) was the presence of morphological markers preceding the noun (34a–c; a zero-marker in the case of c):

- (34a) *rmt*: stem **iamac*- + \emptyset (MASC.SG) = */*ia:mac*/ > Coptic *p-rôme* 'the man'
- (34b) *sn*: stem **san*- + at(FEM.SG) = */*sa:nat*/ > Coptic *t-sône* 'the sister'
- (34c) *hpr*: stem **xapaɪ*- + INF. \emptyset = */*xa:paɪ*/ > Coptic *šôpe* 'to become'

Some nouns, however, did retain different forms for masculine vs feminine nouns, e.g. Coptic *son* 'brother' vs *sône* 'sister', or singular versus plural, e.g. Coptic *hto* 'horse' vs *htôôr* 'horses'.

3.4.3 Articles

Later Egyptian developed two sets of articles. The indefinite singular article came from the numeral *w^cj* 'one', the plural form developed out of the quantifier *nhy n* 'a little of' (35).

- (35) N[–SPEC] > INDEF.ART-N.
 Earlier Eg. *sn.t* > Late Eg. > Coptic *ou-sône*
 'a.sister' *w^c(.t)-sn(.t)* 'a-sister'
 Earlier Eg. *sr.w* > Late Eg. > Coptic *hen-esouu*
 'sheep' *nhy-n-sj.w* 'sheep'

The definite article (Loprieno 1980a) derived from a grammaticalized anaphoric demonstrative pronoun (*p3, t3, n3* 'this, these') – see (36).

- (36) N[+SPEC] > DEF.ART-N.
 Earlier Eg. *rm.t* > Late Eg. *p3-rm(t)* > Coptic *p-rôme*
 'the.man' 'the man'
 Earlier Eg. *db.wt* > Late Eg. *n3-(n)-db(.t)* > Coptic *n-tôôbe*
 'the.bricks' 'the bricks'

The definite article also attracted the pronominal affix indicating the possessor, which in Earlier Egyptian followed the head noun (37a). Similarly, deictics now preceded the noun they modified (37b).

- (37a) N-POSS > DEF.ART-POSS-N
sn-f *pe-f-son*
 brother-his the-his-brother
 'his brother'
 (37b) N-DEICTIC > DEICTIC-N
hjm.t tn *tei-shime*
 woman this(FEM) this(FEM)-woman
 'this woman'

3.4.4 Adjectives

Adjectives were morpho-syntactically treated like nouns. However, as they could be expanded by adverbs they constituted a separate morphological class in Egyptian. In a common derivational pattern, called nisbation, a morpheme – masculine **ij*, feminine **it* – was added to a stem, which might be different from the stem of the singular or plural noun, to form the corresponding adjective: *ntr* **na:caɪ/* 'god', *ntr.w* **nac^hu:ɹaw/*

Table 3.3 Personal pronouns in Earlier Egyptian.

		Stressed	Unstressed	Suffix
SINGULAR	1st com	<i>jnk</i>	<i>wj</i>	-j
	2nd masc	<i>ntk, twt^a</i>	<i>tw</i>	-k
	2nd fem	<i>ntf, tmt^a</i>	<i>tn</i>	-t
	3rd masc	<i>ntf, swt^a</i>	<i>sw</i>	-f
	3rd fem	<i>nts, stt^a</i>	<i>sj, st</i>	-s
DUAL	1st com		<i>nj</i>	-nj
	2nd com	<i>ntnj</i>	<i>tnj</i>	-tnj
	3rd com	<i>ntsnj</i>	<i>snj</i>	-snj
PLURAL	1st com	<i>jnn, (ntn)</i>	<i>n</i>	-n
	2nd com	<i>ntn</i>	<i>tn</i>	-tn
	3rd com	<i>ntsn</i>	<i>sn, st</i>	-sn

^a *twt, tmt, swt* and *stt* are more archaic forms found in Old Kingdom religious texts

'gods', *ntrj* **nuc.ɪj/*, *ntrj.t* **nuc.ɪt/* 'divine'. Unlike nouns, adjectives had only one plural form for both masculine and feminine: *ntrj.w* **nuc.ɪw/* 'divine'.

In Later Egyptian, adjectival specification was more or less completely confined to the syntactic sphere. The use of the specifier after the connective *n* differentiated between genitive (38a) and adjectival construction (38b):

- (38a) *p-hoout n-ta-sône*
 the-husband of-my-sister
 'my sister's husband'
 (38b) *p-halêt n-hoout*
 the-bird as-Ø-man
 'the male bird'

3.4.5 Pronouns

Egyptian had a developed system of personal, demonstrative, relative, and interrogative pronouns. Reflexive pronouns are not attested. Instead, either a personal pronoun or a prepositional phrase with a personal pronoun was used. Similar patterns were employed in the function of reciprocal pronouns.

3.4.5.1 Personal pronouns

There were four sets of personal pronouns (Kammerzell 1991), including one limited to the ending of the stative form of the verb. Stressed pronouns were used for the topicalized subject of noun clauses in the first and second person (39a), and for the focalized subject of verbal cleft sentences (39b).

- (39a) *jnk jt-k*
I(TOPIC) father-you
'I am your father.'
- (39b) *nts s-^cnh rn-j*
she(FOCUS) CAUS-live(PART) name-me
'She is the one who makes my name live.'

Unstressed pronouns were used for the object of verbal phrases (40a), and for the subject of adjective clauses (40b) and of adverb clauses (40c):

- (40a) *h3b-f wj*
send(PERF)-he me
'He sent me.'
- (40b) *nfr tw hn^c-j*
be.good(PART) you with-me
'You are happy with me.'
- (40c) *mk wj m-b3h-k*
behold me in-presence-you
'Look, I am in front of you.'

Suffix pronouns were used as the subject of verb phrases, as possessive marker, and as the object of prepositions (41). (NB: Though they are formally identical, we gloss suffix pronouns functioning as subjects as being in the English nominative case and all others as being in the accusative case in order to distinguish them from one another. This does not imply that there is accusative case marking in Egyptian.)

- (41) *dj-k r-k n-j h.t-j*
give(PROSP)-you toward-you to-me thing.FEM-me
'You shall indeed (lit. 'toward-you') give me my possessions.'

3.4.5.2 Demonstrative pronouns

Demonstratives were characterized by a deictic element preceded by the indicator of gender and number – masculine *pn, pf, pw*; feminine *tn, tf, tw*; *rm_f pf* 'that man', *hjm.t tn* 'this woman'. They followed the noun they referred to. While the *-w*-series is distance-neutral, the *-f*-series is distal but is used only in contrast to a proximal referent. The difference between the *-w*- and *-n*-series is situated on a pragmatic level (Jenni 2010). The plurals (originally neuter) *nw, nf, nn* were also used as pronouns in partitive constructions with the determinative pronoun *nj*: *nn nj srj.w* 'these officials' < *'this of officials'. The determinative pronoun *nj*, feminine *n.t*, plural *n.w* was used primarily as

a marker of genitival relation: *rm_f.w n.w km.t* 'men of Egypt' > 'Egyptians'. Of these, only members of the *n*-series can be used absolutely: *dd-n-f nn* 'he said this'.

While the demonstratives followed the noun they referred to in Earlier Egyptian, those of Later Egyptian precede their nouns: *p3y rm_f* 'this man', *t3y s.t-hm.t* 'this woman', *n3y jnr* 'these stones'. Furthermore the pattern of a triple series is replaced by an assumed twofold one, yet the earlier phases of Later Egyptian do not mark that assumed distance graphically. Hence, *p3y rm_f* might mean 'this man' as well as 'that man' in Late Egyptian and Demotic. From Late Egyptian onwards, the demonstratives can be found used regularly in absolute function: *p3y, t3y, n3y* 'this/that/these/those one/s'.

Coptic, however, displays a suppletive paradigm. The proximal function is expressed by the series *pai, tai, nai* (absolute use) and *pi-, ti-, ni-* (use in front of noun). For the expression of the distal function, Coptic employs an expression being etymologically a relative clause – 'which is there': *etmmau* in Sahidic (< *nty n-im=w* attested in Demotic: *n-hmhal etmmau* 'those servants', and *et-tê* in Bohairic: *pi-rômi ettê* 'that man'. The absolute pronoun is *pê, tê, nê*.

3.4.5.3 Relative pronouns

The relative pronoun was masculine *ntj*, feminine *nt.t*, plural *nt.w* 'who, which, that'. It was morphologically derived from the determinative pronoun. In Earlier Egyptian, these pronouns agreed in gender and number with the head noun, which had to be semantically specific. Characteristic for Earlier Egyptian was the presence of a relative pronoun – masculine *jw_{tj}*, feminine *jw_t.t*, plural *jw_t.w* – which semantically incorporated negation ('who not / which not / that not'):

- (42) *jw_{tj} phr-f dd.w m h.t-f*
who.not vent(AOR)-he say(PART.IMPF.PASS) in belly.FEM-him
'He who does not vent what is said in his belly.'

In Later Egyptian, the gender and number agreement had been dispensed with and only one morpheme, i.e. the masculine *ntj*, was thereafter employed in both affirmative (43a) and negative (43b) constructions as a relative particle.

- (43a) *p3 ntj nb jw-j (r) dd.t-f*
the(MASC) REL all COMPL-I (to) say(INF)-it
'everything I will tell'
- (43b) *ntj bn st r s.t-w*
REL NEG they to place-their
'(bad things), which are not appropriate (lit. not at their place)'

3.4.5.4 Interrogative pronouns

Egyptian employed interrogative adverbs and interrogative pronouns. The majority of interrogative pronouns were generic: *m* 'who/what?', *jḥ* 'what?', *jšst* 'what?' They could be combined with prepositions or particles to form complex pronouns: *jn-m* 'who?', *ḥr-m* 'why?' (literally 'on-what?'). Interrogative pronouns could not be used as relative pronouns.

3.4.6 Verbal morphology

3.4.6.1 Finite verb stems

Earlier Egyptian finite verb phrases displayed a limited number of stems (three or four) indicating tense, aspect, and voice followed by either the pronominal suffix (44a) or the nominal subject (44b):

- (44a) *ḥnḥ-s*
live(PROSP)-she
'She will live.'
- (44b) *ḥ3b ḥjm.t z3-s*
send(PERF) woman son-her
'The woman sent her son.'

Typical Egyptian verb inflection (utilizing the suffix pronouns) is illustrated in (45) with the verb-stem *sdm* 'hear':

- | | | | | |
|--------|----------|---------------|--------------|-------------|
| (45) | SINGULAR | 1st com | <i>sdm-j</i> | 'I hear' |
| | | 2nd masc | <i>sdm-k</i> | 'you hear' |
| | | 2nd fem | <i>sdm-t</i> | 'you hear' |
| | | 3rd masc | <i>sdm-f</i> | 'he hears' |
| | | 3rd fem | <i>sdm-s</i> | 'she hears' |
| PLURAL | 1st com | <i>sdm-n</i> | 'we hear' | |
| | 2nd com | <i>sdm-tn</i> | 'you hear' | |
| | 3rd com | <i>sdm-sn</i> | 'they hear' | |

In addition to variations in the stem, complementizers inserted between the stem and the subject indicated some verbal features: the most important of these indicators were *n* for the preterite tense (*sdm.n-f* 'he heard'); *t* for non-paradigmatic occurrences of the perfective aspect (*n sdm.t-f* 'before he had heard') and for the prospective aspect of a few irregular verbs (e.g., *jn.t-f* 'he will fetch'); *w* for prospective aspect (*mrj.w-f* 'he will love') and passive voice (in perfective stems, *sdm.w-f* 'it was heard'), *tw* for passive (in non-perfective stems, *sdm.tw-f* 'it is heard').

A particular verbal stem displayed the tonic vowel between the second and the third radical, and in weak verbal classes the reduplication of the second radical: *stp-*/sa'tap-/* (choose.REL), *mrr-*/ma'iar-/* (love.REL). A similar verbal form indicated in Semitic languages the imperfective aspect; in Egyptian, this may indeed have been the original meaning of the form, but in the language of literature its main function was to mark the verb phrase as pragmatic theme of the sentence in which it appeared (Polotsky 1976: 4–25). In these sentences, the pragmatic rheme was usually a modifier or an adverb clause:

- (46) *jrr ḥm-k r mrj.t-f*
do.IMPF Majesty-your to desire(REL).FEM-him
'Your Majesty acts as he desires.'

The imperative had no suffix element in the singular, but sometimes, especially with weak verbs, a semi-vocalic suffix in the plural.

Egyptian also exhibited a verbal form, variously called Old Perfective, Stative, or Pseudoparticiple, which indicated the wide semantic range of 'perfectivity', from perfect aspect (with intransitive verbs) to passive voice (with transitive verbs). This form was built with a special set of suffixes that were etymologically linked to the forms of the Semitic suffix conjugation (Schenkel 1990: 104–8; Kammerzell 1991: 165–99):

- (47) *mk wj jj-kw*
behold me come(STAT)-me
'Look, I have come.' i.e., 'I am here.'

In Later Egyptian, finite VSO forms were replaced by a paradigm of SVO-constructions, called 'sentence conjugations' or 'clause conjugations' (Polotsky 1960), resulting from the grammaticalization of a form of the verb 'to do' followed by the infinitive:

- | | | | | |
|------|-----------------|---|--------------------|---------------------|
| (48) | VSO | > | SVO | |
| | Old Eg. | > | Late Eg. | > Coptic |
| | <i>sdm.ḥr-f</i> | | <i>ḥr-jr-f-sdm</i> | <i>ša-f-sôtm</i> |
| | hear.AOR-he | | AOR-do-he-hear | AOR-he-hear |
| | | | | 'He usually hears.' |

In this way, Coptic ultimately has maintained only two flectional patterns from most verbal roots: (i) the infinitive for process predicates, and (ii) the so-called 'qualitative', derived from the third masculine singular (more rarely, third feminine singular) form of the Old Perfective, for stative predicates (Polotsky 1987–90: II 197–221):

- (49) *f-kôt* vs *f-kêt*
he-build(INF) it-build(STAT)
'he builds' 'it is built'

Thus, with the productivity of root and stem variations massively reduced, Later Egyptian linguistic typology gradually moved from the original flectional toward the polysynthetic type, which to a large extent characterizes Coptic:

(50) Earlier Eg.

jw s_{dm}.n-j hrw
COMPL hear.PRET-I voice

Late Eg.

jr-j-s_{dm} w^c-hrw
do.PRET-I-hear a-voice

Coptic

a-i-setm-ou-hroou
PRET-I-hear-a-voice

'I heard a voice.'

The evolution toward a lexicalization of compound expressions also affected the verbal system (Winand 1992: 20). In many instances, an earlier verbal lexeme was replaced in Later Egyptian, particularly in Coptic, by an auxiliary of generic meaning ('to do', 'to give', 'to take', etc.) followed by the verbal infinitive or by a noun object:

(51) VERBAL LEXEME > AUXILIARY + NOUN

w^c r-hap, ti-hap
judge(INF) do(INF)-law, give(INF)-law
'to judge'

Non-finite forms of the Coptic verb are the infinitive – which usually indicates (i) activities (*ei* 'to come'), (ii) accomplishments (*ôô* 'to conceive'), or (iii) achievements (*cine* 'to find') – and the qualitative, which conveys states (*eet* 'to be pregnant'). Although synthetic participial functions, as we saw in section 3.4.2, were analytically conveyed in later Egyptian by relative constructions, there were still a few remnants of Ancient Egyptian synthetic participles (*mai-noute* 'lover of god' > 'pious'). Finite verbal forms consisted in Coptic of a marker which conveyed aspectual, temporal, or modal features, followed by the nominal or pronominal subject and by the infinitive (for actions) of the verb: *a-prôme sôtm* 'the man heard', *a-i-hmoos* 'I sat down.' In the present and imperfect tense which were treated as adverbial constructions, the infinitive could be replaced by the qualitative (for states): *ti-hkaeit* 'I am hungry.' The most important verbal markers were as follows (the '=' symbol indicates pronominal subjects; the hyphen, nominal subjects):

- (1) *e=, ere-*: circumstantial present (*e=i-hkaeit* 'while I am hungry')
- (2) *ša=, šare-*: aorist of habit (*ša=i-ka-pajoi na=i* 'I keep my ship for me')
- (3) *me=, mere-*: negative aorist (*me=f-sôtm* 'he cannot hear')
- (4) *e=PRON e, ere-N e*: prospective of wish (*e=s-e-šôpe* 'may it happen', 'amen')
- (5) *nn(e)=, nne-*: negative prospective (*nne=f-eibe ša-eneh* 'may he never be thirsty')
- (6) *mar(e)=, mare-*: optative (*mare-pekran ouop* 'hallowed be your name')
- (7) *(n)tare=, (n)tare-*: final (*aitei tar=ou-ti nê=tn* 'ask, that you may be given')
- (8) *šant(e)=, šante-*: completive (*šante-prê hôtp* 'until the sun sets down')
- (9) *mpat(e)=, mpate-*: Negative Completive (*mpat=f-ei* 'he has not yet come')
- (10) *a=, a-*: preterite (*a-ouša šôpe* 'a festival took place')
- (11) *mp(e)=, mpe-*: Negative Preterite (*mpi-raše* 'I did not rejoice')
- (12) *ne=, nere-*: imperfect (*nere-tmaau n-iêsous mmau* 'Jesus' mother was there')
- (13) *nter(e)=, ntere-*: temporal (*ntere=f-je nai* 'when he said these things')
- (14) *n=, nte-*: conjunctive (*e=k-e-nau n=g-eime* 'may you see and understand')

In addition to these so-called 'sentence (or clause) conjugations', Coptic displayed: (i) an inflected form of the infinitive (*p-tre=f-fsôtm* 'the fact that he hears') that could also be used after prepositions (*hm-p-tre=f-fsôtm* 'while he heard'); (ii) a special suffix conjugation for adjective verbs (*nanou=f* 'he is good'); and (iii) a marker for the future of the present and imperfect tense (*ti-na-sôtm* 'I shall hear').

3.4.6.2 Non-finite verbals

Non-finite forms of the Egyptian verb were: (i) the participles, with nominal stems derived from the verbal root (e.g., *s_{dm} */sa:cim/* 'hearer'); and (ii) the infinitives which displayed a suffix *ø* in the regular verbs (*s_{dm} */sa:cam/* 'to hear') or an allomorph *t* in some classes of weak verbs (*mr:t */mi:it/* 'to love'; *rm:t */i:mit/* 'to cry'), and a suffix *w* after verbs of negative predication, such as *tm* (*tm jr:w */tam-ji:aw/* 'not to do', lit. 'to complete-to do.NEG-INF').

Participles were diachronically superseded by analytic constructions with relative pronouns (52):

- | | | | | |
|------|-----------------------|---|-----------------------------------|------------------|
| (52) | PARTICIPLE | > | RELATIVE CONSTRUCTION | |
| | Old Eg. | > | Late Eg. | > Coptic |
| | <i>s_{dm}</i> | | <i>p3-nty (hr) s_{dm}</i> | <i>p-et-sôtm</i> |
| | hear(PART.IMPF) | | the-who-(on)-hearing(INF) | the-who-hear |
| | | | 'the hearer' | |

3.4.7 Particles

The basic negative particle was *n*, which was used for unmarked (*contradictory*) negation, i.e., when the scope of the negation is the nexal relation between a predicative base and a predicate (53a); when combined with the adverb *js* 'indeed', this morpheme expressed *contrariety* (53b; see Loprieno 1991):

- (53a) *n* *rđi-f* *n-j* *mw*
 not give(PERF)-he to-me water
 'He did not give water to me.'

- (53b) *n-js* *jt-j* *rđj* *n-j*
 not-indeed father-me give(PART) to-me
 'It was not my father who gave (it) to me.'

A morphological variant of *n*, conventionally transcribed *nn*, is used in noun clauses to negate existence (54a), and in verb clauses to negate the prospective aspect (54b):

- (54a) *nn* *mʒ.tw*
 not.exist trust.ADJ.PL
 'There are no trustworthy people.'

- (54b) *nn* *mwt-k*
 not.exist die(PROSP)-you
 'You shall not die.'

3.4.8 Numerals and quantifiers

Numerals preceded the noun they referred to. The number 5 was etymologically derived from the word for 'hand'; 20 is the dual of 10; 50 through 90 represent the plural forms of the respective units 5 to 9 (see table 3.4). Ordinals were derived from cardinals through the addition of a suffix *.nw* (from 2 to 9: *hmt.nw* 'third'), and from the later 2nd millennium BC through the prefixation of the participle *mḥ* 'filling' to the cardinal number: *mḥ-20* 'twentieth'). An exception was the ordinal number 'first', for which discrete lemmas derived from nouns were used in place of a derivation: *tpj* 'first' (still marking gender such as *tpj.t* 'first' [first.FEM]) in Earlier Egyptian, *ḥʒwtj* in Later Egyptian. Multiples were derived by the help of the noun *sp* 'time' following the number (4 *sp* 'four times'). The derivation of fractions was achieved via the prefix *r* (from *r* 'part') plus the number of the fraction (*r-5* '1/5'). Only for 'half' was a specific word, *gs*, used. Fractions other than 1/x could be expressed only for 2/3 (*r.wy* 'the two parts' [part.DUAL]) and 3/4 (*hmt rw* 'the three parts (out of four)' [three part.PL]). All other fractions were obtained by addition (e.g., $5 + \frac{1}{2} + \frac{1}{7} + \frac{1}{14} = 5\frac{5}{7}$).

Table 3.4 Earlier Egyptian numerals and their Sahidic Coptic outcome.

1 <i>w^c.w</i> */vuʃʃuv/ > <i>oua</i> /vaʔ/	50 * <i>dj.w</i> */tʰijjav/ > <i>taiou</i> /tʰajjəv/
2 <i>sn.wj</i> */si nuuvaj/ > <i>snau</i> /snaʊ/	60 * <i>srs.w</i> */saʔseʊ/ > <i>se</i> /seʔ/
3 <i>hmtw</i> */xamtaʊ/ > <i>šomnt</i> /ʃomnt/	70 * <i>sflj.w</i> */saʔxev/ > <i>šfe</i> /ʃfeʔ/
4 <i>jfdw</i> */jif tʰaʊ/ > <i>fioou</i> /fiʊʊ/	80 * <i>hmn.w</i> */xam neʊ/ > <i>hmene</i> /xme neʔ/
5 <i>djw</i> */tʰijjav/ > <i>tioʊ</i> /tʰiʊʊ/	90 * <i>psd.w</i> */pis cʰijjav/ > <i>pstaioʊ</i> /pəs tʰajjəv/
6 <i>srs.w</i> */saʔsaʊ/ > <i>soou</i> /soʊ/	100 <i>š(n)t</i> */ʃ(inj)ut/ > <i>še</i> /ʃeʔ/
7 <i>sfljw</i> */saʔxav/ > <i>sašf</i> /saʃf/	200 <i>š(n).tj</i> */ʃ(inj)u:taj/ > <i>šet</i> /ʃe:t/
8 <i>hmnw</i> */xa ma:naʊ/ > <i>šmoun</i> /ʃmu:n/	300–900 * <i>hmtw-š(n)t</i> , etc.
9 <i>psdw</i> */pi si:cʰaʊ/ > <i>psit</i> /psi:t/	1,000 <i>ḥʒ</i> */xar/ > <i>šo</i> /ʃoʔ/
10 <i>mḍw</i> */mu:cʰaʊ/ > <i>mēt</i> /me:t/	10,000 <i>ḍb^c</i> */cʰ v baʃ/ > <i>iba</i> /tʰbaʔ/
20 * <i>djw.tj</i> */cʰ aʊ:taʃ/ > <i>jouôt</i> /cʰvo:t/	100,000 <i>ḥfn</i>
30 <i>m^cbʒ</i> */maʃbvr/ > <i>maab</i> /mab/	1,000,000 <i>ḥḥ</i> */ḥaḥ/ > <i>hah</i> /hah/
40 * <i>hm.w</i> */ḥv meʊ/ > <i>hme</i> /hmeʔ/	

Egyptian had a universal quantifier *nb*: since it was morphologically an adjective, this quantifier inflected for gender and number (*nb* 'every', *nb.t* 'every.FEM', *nb.w* 'every.PL.MASC', *nb.wt* 'every.PL.FEM'). The numeral 'two' was also employed to express the meaning 'other'. The function of scalar quantifiers was usually performed by adjectives such as *ʕʒ* or *qnw*, which meant 'many', or by genitive constructions which involved the noun *nḥy* 'a little' (*nḥy n nʒ ḥbs.w* 'some of the clothes').

3.5 Syntax

3.5.1 General remarks

Egyptian phrasal syntax was head-initial. This distribution was obligatory with nominal (noun-genitive, noun-adjective), adjectival, and prepositional phrases. In Earlier Egyptian, however, determiners such as quantifiers or demonstrative pronouns followed the noun they referred to. From a diachronic point of view, the hierarchy within nominal phrases changed from *head – determiner – quantifier – adjective phrase – genitive nominal phrase* in Earlier Egyptian to *determiner – head – quantifier – adjective phrase – genitive nominal phrase* in Later Egyptian. All numbers except the numeral '2' preceded the noun, which itself appeared in the singular. Up to 299, numerals showed gender agreement with the noun they referred to, but from 300 upwards numbers appeared always as feminine. In Coptic this gender distribution was no longer valid and numbers were generally treated as masculine. Scalar expressions could be expressed by using an adverb to specify an adjective or by repetition of the adjective (e.g. *jrp nfr nfr* 'very good wine').

Verbal valency limitations circumvent the double accusative position even in causative constructions (both morphological (synthetic) causatives in *s-* and syntactic (analytic)

causatives with the verb *rdj* plus clause). A necessary second object must be introduced via a prepositional phrase. For a detailed study of verbal valency in Egyptian, see Hafemann (2002).

Sentences with verbal predication show either VSO or SVO syntax; various sentence structures will be treated in detail in section 3.5.2. Clausal adjuncts were mainly formed by means of prepositional phrases with only a few real adverbs. The most frequent prepositions were *m* 'in/with', *n* 'to/for', *r* 'toward', *mj* 'as/like', *hr* 'on', *hr* 'under', *hn^c* 'with', *hft* 'according to', *hnt* 'before'. Prepositional phrases followed the noun or the verb they modified. Particularly noteworthy is the presence of the preposition *hr* 'near'; its original semantic value 'beneath' was applied to any situation in which the two participants A and B belonged to different levels of the social hierarchy:

- (55a) *dd-f hr ms.w-f*
say(PROSP)-he beneath child.PL-him
'He will say to his children.'

- (55b) *jm3hy hr ntr 3*
honour(PASS.PART) beneath god great
'honoured by the great god'

The typical phrasal coordination pattern of Earlier Egyptian was juxtaposition. Later Egyptian regularly used conjunctions developed out of prepositions such as *hn^c* or *jrm* 'together with', but even these conjunctions were initially limited to NP-coordination. No discrete adversative coordination pattern seems to have existed before Coptic, at least not for phrasal coordination. Coptic employs, besides the Greek-based *alla* 'but' (being the prototypical connector), various other Greek and Egyptian particles. The expression of disjunction was achieved by means of a post-positional element *r-pw* 'or' (e.g., *m nb m sn m hnms r-pw* 'as lord, as brother, or as friend') or by juxtaposition. Clausal coordination patterns will be described in detail below in section 3.5.3.

Egyptian allowed for the following deletion pattern of co-referential elements within verbal sentences (a–d are the arguments of the verbal predicate; P, Q indicate predicates; co-referential elements are set in bold>. Note that in Earlier Egyptian, conjunction is mainly expressed by juxtaposition; it is only in Later Egyptian that a conjunct gradually becomes obligatory):

- (i) **P a b** + **P c b** → P (a + c) b
**wnm-sj t* + **wnm hm.t t* **wnm- sj (hn^c) hm.t t*
eat man bread eat woman bread eat man (with) woman bread
'The man and the woman eat bread.'

- (ii) **P a b** + **P a c** → P a (b + c)
**rdj.n-j t n-hqr* + **rdj.n-j hbs n-h3y* **jw rdj.n-j t n-hqr hbs n-h3y*
give.PRET-I bread give.PRET-I cloth PTC give.PRET-I bread
to-hungry to-naked to-hungry cloth to-naked
'I gave bread to the hungry and clothing to the naked.'
- (iii) **P a b** + **Q a b** → P a b + Q a b
**jrj-sj t* + **wnm-sj t* **jw jrj-sj t* *wnm-f sw*
do man bread eat man bread PTC do man bread eat-he it
'The man buys bread and eats it.'
- (iv) **P a b** + **Q a c** → P a b + Q a c
**wnm-sj t* + **swj-sj mw* **jw wnm-sj t* *swj-f mw*
eat man bread drink man water PTC eat man bread drink-he it
'The man eats bread and drinks water.'
- (v) **P a b** + **P c d** → P a b
**wnm-sj t* + **wnm-hm.t j3rr.t* **jw wnm-sj t*
eat man bread eat woman grapes PTC eat man bread
+ P c d
wnm-hm.t j3rr.t
eat woman grapes
'The man eats bread and the woman grapes.'

No limitations seem to have existed for the conversion of any sentence type into a relative clause in Later Egyptian. Earlier Egyptian displays a fully developed paradigm of participles and relative forms in addition to relative clauses introduced by a relative pronoun (positive and negative, see above, section 3.4.5.3). Diachronically, the synthetic morphological patterns for relative forms and participles tended to be replaced by analytic relative clauses built with the help of a relative marker (*nty* > *et*, see above, section 3.4.5.3, and below, section 3.5.4).

Complement clauses could be finite or non-finite; in the latter case, infinitive constructions were used. Finite complement clauses might appear introduced by a particle (*ntt*, *jwtt*, or *r-dd*) or directly juxtaposed to the main clause expressing the speaker's attitude toward the propositional content of the reported sentence (Uljas 2007). The difference between direct and indirect speech was expressed through deictic reference shift. Earlier Egyptian behaved like most modern languages in shifting all referents (56a). In Late Egyptian, however, usually only one referent was shifted, as in (56b) (Kammerzell & Peust 2002):

- (56a) *dd.n-f ḥ3-f ḥn^c-j*
 say.PRET-he fight-he with-me
 'He said he would fight with me.'
- (56b) *tw-j ḥr-dd n-P3-R^c-Ḥr-3ḥ.tj [...] jmj n-k snb*
 I say to-Preharakhty [...] give(IMP) to-you health
 'I am praying to the god Preharakhty [... further deities ...], that they
 may give you health.'

Adverbial clauses could be used either initially or following the main clause. Earlier Egyptian typically employed prepositions as markers, while Later Egyptian developed a set of conjunctive markers or morphological verbal forms (see the list given above for Coptic). Conditional clauses could be marked as real or hypothetical. Before Coptic, concessive conditionals have no specific marking.

Because of the kind of agreement marking displayed in Egyptian, deletion of anaphoric pronouns in subject position was usually not allowed. Adverbial and complement clauses showed similar limitations except in non-finite structures.

Questions were usually marked by particles or possibly by suprasegmental features such as intonation. As *wh*-words could not be moved to the frontal position of unmarked sentences, questions generally gave rise instead to focalization patterns such as cleft sentences if the interrogative scope was a pronoun (57a), or topicalized verbal predicates (the so-called 'second tenses') if the interrogative scope was an adverb or a prepositional phrase. Only Coptic allowed *wh*-fronting in certain patterns (Reintges 2002: 374–80).

- (57a) *jḥ n3 nty tw-tm ḥr-dd.t-w*
 what the(PL) REL you(PL) say-them
 'What are you saying?'
- (57b) *j.jr-k gm-s mj-jḥ*
 FOC.do-you find-it like-what
 '(Regarding the place you went to,) how did you discover it?'

In comparative expressions, the second element of the comparison was introduced by the preposition *r* 'to' for inequality and *mj* 'like' for equality (Peust 2006).

- (58a) *s^c3.n-j sw r jm.t-ḥ3.t*
 enlarge.PRET-I it to-being(FEM)-before
 'I made it greater than it was formerly.'
- (58b) *dw3 sw mj j^cḥ*
 worship him like moon
 'Worship him (i.e., the king) like the moon.'

3.5.2 Sentence types and word order

Egyptian syntax knew four types of sentences. These are classified according to the phrase which occupied the predicate position: noun clauses, adjectival clauses, adverb clauses, and verb clauses.

Syntactic patterns proved rather stable throughout the history of Egyptian. Late Egyptian (Satzinger 1981) and Coptic (Polotsky 1987–90: 9–43) displayed more or less the same variety of sentence types as in Earlier Egyptian.

3.5.2.1 Noun clauses

In noun clauses, the predicate is a noun: *S* > [*NP NP*] (Doret 1989–92; Loprieno 1995: 103–31). Any *NP* could occur in either position; pronouns, however, had a tendency to occupy the initial position. Typical were bipartite (juxtaposed *NPs*) and tripartite patterns (adding a copula as third element). In categorical statements a demonstrative *pw* 'this' functioning as copula was usually inserted between the two phrases (59):

- (59) *dmj.t pw jmn.t*
 city.FEM COP west.FEM
 'The west is a city.'

The distribution of predicate and subject was not consistent. Both *S* > [*NP_S NP_P*] and *S* > [*NP_P NP_S*] were possible. The syntactic order Predicate(-Copula)-Subject was modified into a pragmatic order Topic-Comment in: (i) classifying sentences in which the subject was a first- or second-person pronoun (60a); (ii) identifying sentences in which both the subject and the predicate were determined or semantically specified (60b); and (iii) in cleft sentences in which the predicate was a participle and the subject was focalized (60c) (Loprieno 1988: 41–52):

- (60a) *ntk jtj n nmḥw*
 you father for orphan
 'You are a father to the orphan.'
- (60b) *zh3w-f pw ḥrw*
 scribe-him COP Horus
 'His scribe is the god Horus.'
- (60c) *jn sn.t-j s^cnḥ rn-j*
 FOCUS sister.FEM-me CAUS-live(PART) name-me
 'My sister is the one who makes my name live.'

Later Egyptian showed typologically similar patterns: it displayed an unmarked syntactic order Predicate-Subject when the subject was a noun (61a), replaced by a marked

pragmatic order Topic-Comment in three environments: (i) when the subject was a pronoun (61b); (ii) when both the subject and the predicate were semantically specific (61c); and (iii) in cleft sentences, in which the predicate was a participle and the subject was focalized (61d):

- (61a) *ou-me te te-f-mnt-mntre*
a-truth COP.FEM the-his-thing-witness
'His testimony is true.'

- (61b) *anok ou-šôš*
TOPIC.I a-shepherd
'I am a shepherd.'

- (61c) *t-axê n-t-sophia te t-mnt-mai-noute*
the-beginning of-the-wisdom COP the-thing-lover-god
'The beginning of wisdom is piety.'

- (61d) *p-noute p-et-sooun*
the-god the-REL-know(INF)
'God is the one who knows.' (= 'Only God knows.')

3.5.2.2 Adjectival clauses

The predicate position of adjectival clauses is occupied by an adjective (62a) or a participle (62b): $S > [\text{AdjP NP}]$ (Loprieno 1995: 112–14). In the subject position, either a nominal phrase (62a–b) or a clause (62c) may appear. The normal order of constituents is Predicate-Subject (62a):

- (62a) *nfr mtn-j*
be.good path-me
'My path is good.'

- (62b) *sw3dw sw r h^cpy °3*
rejuvenate(PART) he than Nile high
'He is more rejuvenating than a high Nile.'

- (62c) *bjn-wj jw-k °d.tj wd3.tj*
bad-PTC come-you(MASC.SG) safe(STAT)-you sound(STAT)-you
'How very unfortunate that you have come safe and sound!'

In the presence of a first-person subject, the bipartite nominal pattern (63a) was used.

In Later Egyptian, this pattern tended to become very rare: although it still existed in Late Egyptian, it is completely absent in Demotic and Coptic, where adjectival clauses were replaced by nominal (63a from Coptic) or verbal patterns (63b from Demotic).

- (63a) *ang ou-agathos*
I a-good (one)
'I am good.'

- (63b) *p3 hm nm n3^c3-f iw-d3 rn-f*
the little dwarf be.great-he because name-him
'The little dwarf is big because of his name.'

3.5.2.3 Adverb clauses

In adverb clauses, the predicate is an adverbial or prepositional phrase: $S > [\text{NP AP}]$ (Loprieno 1995: 144–72). The word order is always Subject-Predicate. In Earlier Egyptian, adverbial main clauses were often introduced by particles functioning as discourse markers (64a); in absence of a discourse marker, the clause is to be understood as syntactically dependent (64b):

- (64a) *jw nzw jr p.t*
COMPL king towards heaven.FEM
'Now the king is (directed) towards heaven.'

- (64b) *hr.t-k m pr-k*
rations.FEM-you in house-you
'(Because) your rations are in your house.'

In Later Egyptian, the syntax of adverb clauses did not change; the order is Subject-Predicate (Polotsky 1987–90: 203–24):

- (65) *ti-hm-pa-eiôt*
I-in-my-father
'I am in my father.'

3.5.2.4 Verb clauses

In verb clauses, the predicate is a verbal phrase (Loprieno 1995: 183–220); the word order is Predicate-Subject:

- (66) *jj.n-j m nw.t-j*
come.PRET-I from city.FEM-me
'I came from my city.'

As we observed in the discussion of morphology, a peculiarity of Egyptian syntax was that the predicate of verb clauses might function as the theme of the utterance.

In general, Egyptian verbal syntax displayed a comparatively high incidence of topicalization and focalization phenomena. The most common topicalization device

was the extraposition of the topicalized argument through the particle *jr* 'concerning' (67a); used as a conjunction, the same particle introduced the protasis of a hypothetical clause (67b):

(67a) *jr sf wsjr pw*
concerning yesterday Osiris COP
'As for "yesterday", it is Osiris.'

(67b) *jr jqr-k grg-k pr-k*
concerning be.important(PROSP)-you found(PROSP)-you house-you
'If you become important, you should found a household.'

Unmarked VPs not introduced by discourse markers were less frequent than in related languages. They mostly functioned as dependent or modal clauses:

(68) *h^cy-k*
appear(PROS)-you
'May you appear.'

In Later Egyptian verb clauses (Polotsky 1987–90: 175–202), the predicate was conveyed by SVO-patterns in which the subject could be extraposed to the right of the predicate and anticipated by a cataphoric pronoun in the regular syntactic slot:

(69) *a-u-rime nci ne-snêu*
PRET-they-weep(INF) namely the-brothers(PL)
'The monks wept.'

In Coptic verbal sentences, the tendency to have the verb phrase function as theme or rheme of the utterance reached its full development: in the former case, the verb phrase was preceded by a relative marker *e-* or *nt-* and is described in linguistic literature as 'second tense' (Polotsky 1987–90: 129–40); in the latter, the form is preceded by the circumstantial marker *e-* and is described as 'circumstantial' (Polotsky 1987–90: 225–60):

(70) *nt-a-n-jpo-f e-f-o n-blle*
REL-PRET-we-beget(INF)-him CONJ-he-do(STAT) as-blind
'He was born to us blind.' (lit. 'That we begot him was while he is as blind.')

3.5.3 Coordination and subordination

The presence or absence of morphemes indicating paragraph initiality was an important syntactic feature of adverb and verb clauses in Egyptian. The general rule was as

follows: (i) adverbial and verbal patterns introduced by a discourse particle were initial main clauses; (ii) bare patterns were non-initial clauses, either paratactically juxtaposed to the initial predication as non-initial coordinate main clauses or controlled by it as subordinate clauses. This flexibility in sentence patterns, which could appear as main sentence or as subordinate clause, depending on the syntactic environment, was a common feature of Egyptian syntax, being shared by the majority of patterns, whether they were nominal, adverbial, or verbal.

The dialectic between the initial main sentence introduced by a particle and the non-initial coordinate bare adverb clause is captured in the following example:

(71) *jw hnw m sgr jb.w m gmw rw.tj*
COMPL residence in silence heart.PL in mourning portal.FEM.DUAL
wr.tj htm.w
great.FEM.DUAL shut(STAT).3PL
'The Residence was in silence, the hearts in mourning, the two great portals shut.'

An example of coordinate verb clause syntax is provided by the following passage, in which a series of non-initial main clauses was paratactically linked to the initial verb form:

(72) *jrj.t-j šm.t m hnty.t nj k3-j*
make(INF)-I go(INF) in sail.south(INF) NEG think(PERF)-I
spr r hnw pn hmt.n-j hpr
reach(INF) to residence this contemplate(PERF)-I happen(PROSP)
h3^cyt nj dd-j nh-j r-s3-f nmj.n-j
turmoil NEG say(PERF)-I live(PROSP)-I after-it pass(PRET)-I
m3^c.tj m h3w nh.t zm3.n-j m jw-snfrw
Maaty in area sycamore arrive(PERF)-I in island-Snefru
'I made a journey southward, and did not plan to reach the residence; I thought that there would be turmoil and I did not expect to survive after it; I crossed the lake Maaty in the sycamore neighborhood, and arrived at Snefru Island.'

It is important to appreciate the difference between initiality as a property of discourse and coordination vs subordination as syntactic features of the clause. In examples (71) and (72), there are only main clauses, in the sense that – if taken individually – all clauses represent well-formed Egyptian sentences paratactically organized within a

chain of discourse (Collier 1992). In both cases, however, only the first sentence is paragraph-initial: in the case of (71), it is introduced by an overt particle of initiality, the complementizer *jw*, which indicates that the corresponding adverbial sentence *hnw m sgr* opens a new segment of discourse; in example (72), the initial verb form, a narrative infinitive, provides the temporal and aspectual references for the chain of paratactically linked clauses.

We need, therefore, to draw a distinction between the level of clause and the level of discourse. Adverbial and verbal sentences introduced by a particle were always main clauses; non-initial patterns might be paratactically linked main clauses or embedded subordinate clauses. The difference between forms with and without an introductory particle lies on the discourse level, in that the sentence introduced by an initial clitic particle opened a paragraph, i.e. a new segment of text. In this respect, rather than operating with the traditional two levels of clausal linkage (parataxis vs hypotaxis, or coordination vs subordination), it seems suitable to analyse Egyptian syntactic phenomena by positing three forms of linkage between sentences.

- (1) **Parataxis**, i.e., the linkage between main clauses: this linkage usually remained unexpressed in Egyptian syntax, as in the case of bare adverbial or verbal sentences which followed an initial main clause within a chain of discourse. Specimens of paratactic chains are provided in (71)–(72). Later Egyptian restricted the employment of parataxis to verbal sentences in the perfective aspect.
- (2) **Hypotaxis**, i.e., a semantic, rather than syntactic, dependency of a sentence on the discourse nucleus: hypotactically linked clauses were usually introduced by particles such as *jsk*, *jhr*, or *js*; their semantic scope and their pragmatic setting could be properly understood only in reference to the message conveyed in the textual nucleus, as in example (73), which in the original text immediately follows (71):

- (73) *jst r-f zbj.n hm-f mšc*
 meanwhile to-it send.PRET majesty-him army
r t3-ṯmh.w z3-f smsw m hrj jry
 to land-Libyans son-him elder as superior thereof
 'Meanwhile, His Majesty had sent off to the land of the
 Libyans an army whose leader was his elder son.'

- (3) **Subordination**, i.e., the syntactic dependency of a clause on a higher node, which itself could be a main or a subordinate clause. Subordination was usually signalled by morphological markers such as prepositions

(for example, *m* 'in' > 'when') governing nominalized verbal phrases, conjunctions (such as *hr-ntt* 'because'), or particles (*jr* 'if'):

- (74) *rh.n-j qd-k tw-j m zšj m wn-k*
 know.PRET-I character-you indeed-I in nest in be(AOR)-you
m šms.wt jt-j
 in following father-me
 'I knew your character while still in the nest, when you were in
 my father's following.'

In the absence of an overt marker of dependency, subordination could also be determined by syntactic control. In this case, one speaks of 'embedding', as in the case of adverbial or verbal sentences functioning as virtual relative clauses or controlled by a verb of perception:

- (75) *gmj.n-j nb-j nḥ.w wd3.w snb.w*
 find.PRET-I lord-me live(STAT) sound(STAT) healthy(STAT)
hntj-f
 sail.south(AOR)-him
 'I found my Lord (may he be alive, prosperous, and healthy)
 travelling southward.'

3.5.4 Relativization

As an example of the complex interface between overt and embedded subordination, let us consider relativization. Specific antecedents (Loprieno 1995: 202–8) were resumed by an overt marker of relativization: (i) the relative pronoun – masculine *ntj*, feminine *nt.t*, plural *nt.w* 'who/which/that' – in adverb clauses (76a); or (ii) an agreement-marker inflected in the relative verb form: a participle in the presence of co-referentiality of antecedent and subject of the relative clause (76b), or a finite relative form in the absence of it (76c):

- (76a) *mtr.n wj rmt.w km.t nt.w jm hn^c-f*
 witness.PRET me man.PL Egypt REL.PL there with.-him
 'Egyptians who were there with him bore witness for me.'
- (76b) *dj-s ḥ.t nb.t nfr.t w^cb.t*
 give(PROSP)-she thing.FEM every.FEM good.FEM pure.FEM
pr.r.t hr wdḥ-s
 exit(PART.FEM) on altar-her
 'May she give every good and pure thing which goes up on her altar.'

- (76c) *ḥ3s.t nb.t rwj.t.n-j r-s*
 country.FEM every.FEM advance(REL).FEM.PRET-I against-it
 'Every country against which I advanced.'

Non-specific antecedents, on the other hand, were modified by relative clauses, which lack overt agreement-markers (Collier 1991; Loprieno 1995: 158–61). They were syntactically subordinated by means of embedding into the main clause:

- (77) *kj.t n.t msdr dj-f mw*
 another.FEM that_of.FEM ear give(AOR)-it water
 'another (remedy) for an ear which gives off water'

3.6 Lexicon

3.6.1 Structured semantic fields

Family terms made basic use of the following: *ḥ3y* 'husband' and *ḥjm.t* 'wife', *jt* 'father' and *mw.t* 'mother', *sn* 'brother' and *sn.t* 'sister', *z3* 'son' and *z3.t* 'daughter'. These were extended to clarify the reference as in *sn ḥjm.t-j* 'my wife's brother' or *ḥ3y n sn.t mw.t-j* 'my aunt's husband' (Franke 1983). The system can be conveniently represented as in Figure 3.1.

Egyptian differentiated the colour terms 'black' (*km*), 'white' (*ḥd*), 'red/yellow' (*dšr*) for warm colours, and 'green/blue' (*w3d*) for cold colours (Schenkel 1963: 140–7). Body parts were finely differentiated (Westendorf 1999: 108–236); a similar degree of sophistication applied to cooking and food-processing terminology (Verhoeven 1984; Faltings 1998).

Egyptian displayed a binary system for primary spatial deixis: *ˁ3* 'here' vs *jm* 'there', later conflating graphically into *dy* 'here/there' but possibly differentiated nevertheless – cf. the Coptic forms *tai* 'here' vs *tê* 'there'. Secondary spatial deixis showed intrinsic as well as relative features (M. Müller in press). The unmarked distribution seems to be:

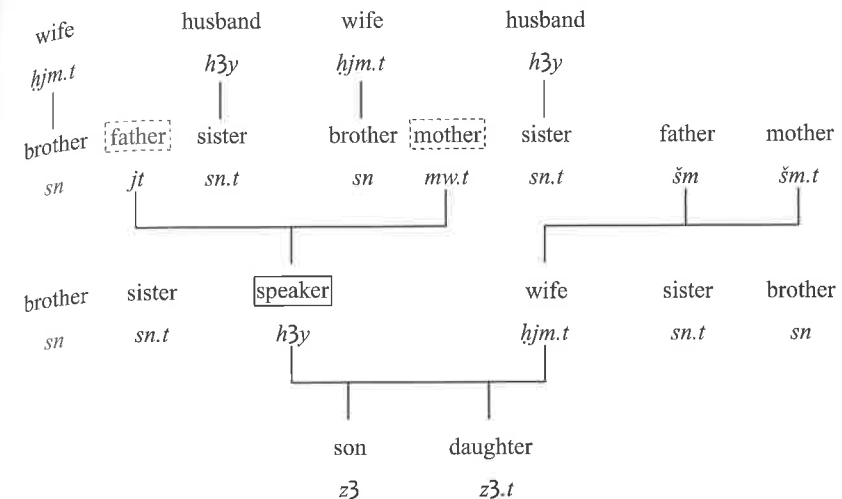
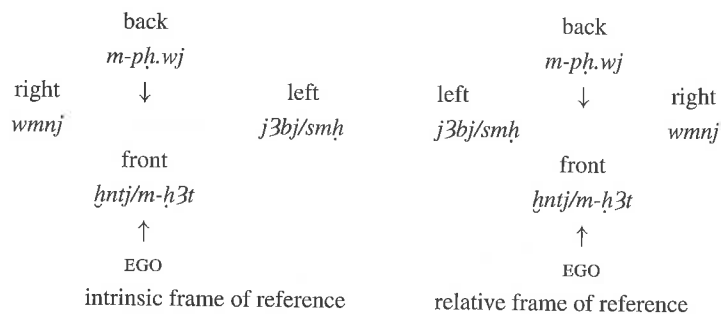


Figure 3.1 Family relations.

3.6.2 Lexical contacts

Owing to Egypt's geographically protected location, Ancient Egyptian did not display in its earlier phase (from 3000 BC) detectable influences from other languages, although the neighbouring languages certainly contributed to the lexical development of historical Egyptian. The majority of the lexicon was of Afroasiatic origin and showed convergences especially with the Semitic and Libyan Berber branches of this family (Schenkel 1990: 49–57): for example, *sp.t* 'lip', cf. Arabic *šafat-un*; *sḥw* 'seven', cf. Arabic *sabʿ-um*; *jnm* 'skin', cf. Berber *a-glim*. There is also some evidence for the possible impact of an Indo-European adstratum in the area of basic vocabulary (Kammerzell 1994: 37–58): e.g., Egyptian *jrt.t* */jalɑ:cat/ 'milk', cf. Greek *gala*, *galak-tos*; or *ḥntj* */xant-ij/ 'before', cf. Greek *anti*, Latin *ante*. In some cases, for the same concept – for example, 'heart' – Egyptian displayed the coexistence of an Afroasiatic (*jb* */jib/, cf. Akkadian *libb-um*) and of an Indo-European connection (*ḥ3tj* */ḥurtij/, cf. Latin *cor*, *cord-is*), probably rooted in different dialectal areas of the country. During the Late Bronze Age (1550–1100 BC), contacts with the western Asiatic world led to the adoption of a considerable number of mostly West Semitic loanwords (Hoch 1994), many of which remained confined to the scholarly and administrative sphere: for example, *ṭpr* from Northwest Semitic *sôper* 'scribe'; *mrkbt* (Coptic *brcoout/berecôut*) from Northwest Semitic *merkabâh* 'chariot'; *mryn* from Mitanni (Iranian) *maryannu* 'chariot-fighter'.

In the Late Period, after the seventh century BC, when the productive written language was Demotic, a limited number of (mostly technical) Greek words entered the Egyptian

domain: *gawma* from *καῦμα* 'fever'; *wynn* through Aramaic from *οἱ Ἴωνες* 'the Ionians' i.e., 'the Greeks'. The impact of Greek vocabulary became more dramatic with the Christianization of the country, Hellenistic Greek being the language in which the Christian Scriptures were transmitted in the eastern Mediterranean world. The number of Greek loanwords in Coptic is therefore very high (Kasser 1991a), depending on the nature of the text: up to one-third of the lexical items found in a Coptic text may be of Greek origin. Most of these words stem from the spheres of: (i) religious practice and belief (*aggelos* 'angel', *diabolos* 'devil', *ekklēsia* 'church', *hagios* 'saint', *sôtēr* 'saviour', etc.); (ii) administration (*arkhôn* 'governor', *oikonomēi* 'to administer', etc.); and (iii) high culture (*anagnōsis* 'recitation', *logikos* 'spiritual', etc.). In some texts translated from Greek, the influence of this language extends to the realm of syntax. A limited number of words from the military context are Latin (*douks* 'general', from Latin *dux*), whereas documents from the end of the first millennium begin to display the adoption of loanwords from Arabic (*alpesour* from *al-bāsūr* 'haemorrhoids'). The terms referring to the basic vocabulary, however, usually remain of Egyptian origin: for example, *rm̄t* > *rōme* 'man'; *h̄jm.t* > *s(.t)-h̄jm(.t)* > *shime* 'woman'; *mw* > *mau* 'water'; *sn.wj* > *snau* 'two'.

4

Semitic

Gene Gragg and Robert Hoberman

See Map 4.1.

4.1 Distribution of the Semitic languages in time and space

4.1.1 Mesopotamia

The main language in this group, Akkadian, is attested on many thousands of clay tablets, written in a mixed logographic–syllabic writing system with wedge-shaped characters ('cuneiform') adapted from the Akkadians' Sumerian predecessors in the region. The huge Akkadian corpus starts from the middle of the third millennium BC (Old Akkadian), and subsequently, in a northern ('Assyrian', centring around the northern capital city of Aššur, near present-day Mosul) and southern ('Babylonian', roughly from present-day Baghdad to the Persian Gulf) variety, continues down to the last scholarly texts written in the final centuries BC. On chronological grounds, Assyrian and Babylonian are conventionally divided into 'Old' (first half of second millennium), 'Middle' (second half of second millennium), and 'Neo' (first millennium). Old Babylonian, the administrative and literary language of Babylon at the time of Hammurabi, is often taken as a 'classic' form of the language; *Neo-Babylonian* and *Neo-Assyrian* are the languages of the last great Mesopotamian empires preceding the rise of the Persian Empire. It is generally assumed that Akkadian was replaced by Aramaic as a spoken language in Mesopotamia in the course of the first millennium BC. A smaller body of texts, more recently discovered at the Syrian site of Tell-Mardikh (=Ebla), is also written in cuneiform and is roughly contemporary with Old Akkadian. Eblaite is sometimes taken to be an extreme western dialect of Akkadian, but sometimes as a separate Mesopotamian Semitic language. Much work remains to be done on this difficult corpus.

4.1.2 The Levant

The eastern coast of the Mediterranean is the home of three important languages. *Ugaritic*, the earliest of them, was written for only about 200 years, from 1400 to

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